

PUBLIC HEALTH NURSING

Official Organ of the National Organization for Public Health Nursing, Inc.



Nursing in "Paradise"

By MURIEL K. MORROW, R.N.

Even in Hawaii, the "Paradise of the Pacific," health and social problems challenge the public health nurse.

PUBLIC HEALTH NURSING in Hawaii is fascinating, and there are many things which help to make it so. The "malihini" or newcomer is amazed and delighted by the profusion of gaily colored flower leis and the many exotic scents which assail the traveler. Sudden brief light showers bring forth successively beautiful rainbows, making complete arches across the sky.

On the downtown streets one sees Japanese women in their lovely kimonos, older Chinese women in long, straight Chinese dresses, an occasional Korean and Filipino in costume. All help to lend enchantment to the scene.

The luxuriance and brilliance of the

foliage and the clearness of the water—merging from a very deep blue to a light emerald green and tipped by white crests—are diffused with the golden glow of the sun, making one feel as if wrapped in a dream.

The enchantment still lasts and is even enhanced when one becomes acquainted with the people. Never before has the writer known a community so spontaneously generous and hospitable. And where else but in Hawaii would one find Hawaiians, Chinese, Japanese, Filipinos, and people of the white race all living together in such close harmony?

It can easily be seen that living and working in Hawaii are very pleasant. One of the things that impresses the newcomer is the comparative absence of dire need. Artificial heat in winter is



Hawaiian woman pounding cooked taro root and mixing it with water for poi

no worry, and a minimum of clothes is all that is necessary. A roof overhead is always possible here. While the diet is often not a protective one, at least there is very little if any real hunger.

When the newness of the scene wears off, one realizes immediately that this is a typically American community in every respect. The nurse coming here with a background of previous public health experience can use the same approach, the same techniques, and the same content of visits with the exception of minor details which were a part of her work on the mainland.

The problems here are essentially the same as those which a public health nurse encounters anywhere. There are language handicaps, but the language difficulties are less acute than in New York City, for example. Until a nurse understands the mores of the people with whom she is working, results are often discouraging—whether she is working with Italians or Greeks or with oriental races. Understanding the people of the Hawaiian Islands is perhaps slightly more difficult than elsewhere, because of the frequency of intermarriage with the resultant mixture in one family of superstitions from the union of several cultures—perhaps Hawaiian, Chinese, Portuguese, and Filipino.

Problems in securing medical services because of the economic reasons, or in rural areas, because of difficulties of

transportation, are quite comparable to similar situations on the mainland.

Facilities for giving care in the homes are in general about the same as those in any community. When the writer observed a nursing visit for the first time on rural Oahu, she was amazed at what seemed to be the abundance of clean linen in the home. This of course varies with the family and with the community,



Native dress for work in the corn fields

but it does seem as if the very poor families here have so much more than the very poor families elsewhere.

ORGANIZATION OF NURSING SERVICE

Public health nursing on the islands is done under three types of organizations: (1) industrial health services on plantations (2) the Board of Health of the Territory of Hawaii (3) the Palama Settlement Nursing Service.

Most plantations employ a public health nurse to do home visiting in the plantation homes. More and more these nurses are encouraged to become qualified public health nurses. They work directly under a plantation doctor without nursing supervision. In one instance the nurse herself requested supervision from a Board of Health supervisor. On several plantations the work is being done by the Board of Health nurses covering those areas.

In Honolulu, the field work is divided between the Palama Settlement Nursing Service, which is a private organization, and the Board of Health. The two organizations work together very closely. They have joint staff meetings and there are representatives from both organizations on all executive committees and supervisors' councils. They use the same records and techniques and as much as is possible function as one organization. The city is divided into 27 districts with a nurse in each district; 17 of these districts are covered by the Palama Settlement and 10 by Board of Health nurses. The same type of work is being done in each district.

The rest of the Territory is covered by nurses working under the Board of Health. There are 38 rural nursing districts under its supervision.

The Board of Health of the Territory of Hawaii is centrally organized, with a territorial commissioner of public health, assisted by his different department heads. There is a medical director and a consultant nurse for each of the fol-

lowing bureaus: Maternal and Infant Hygiene; Communicable Diseases, including syphilis control; Services for Crippled Children; and Tuberculosis. The director of the Bureau of Public Health Nursing has several assistants, each of which is a chief public health nurse for one of the islands. The health department also includes bureaus of Sanitation, Vital Statistics, Laboratories, and the Territorial Hospital for mentally ill patients at Kaneohe.

THE RURAL AREAS

Supervision of the health work on the various islands is directed from Honolulu. There are no city, town, or county health departments. There are four main islands in the Hawaiian group: Oahu, with the city of Honolulu on it; Hawaii, the largest island, on which the city of Hilo is located; Kauai; and Maui. The islands of Lanai and Molokai are smaller. Lanai has one nurse and Molokai two.

Some districts of Hawaii are quite inaccessible, and an intensive public health nursing program is impossible. In other rural areas the program is well developed.

A nurse when visiting a patient in the country by car or on foot never knows whether she will find her away at the other end of a water-covered taro field, planting beans up a mountain side, or washing clothes in the nearest stream of running water.

The area with which the writer is most familiar is her own district on rural Oahu, which happens to be the demonstration area. This particular district was chosen because of its high infant mortality and its scarcity of community financial resources. In it there has been an effort to demonstrate adequate maternal and infant care, in a generalized program, and also to demonstrate newer techniques and procedures. Close working relationships between nursing and medical and social agencies in the dis-

strict has also been an objective. Matched Social Security funds have been utilized for this purpose. Three nurses work in this area, with an average population of four thousand people to each nurse.

The program, as in all the other areas, is a generalized service, including nursing service to the school; supervision of crippled children; communicable disease nursing; and antepartum, postpartum, infant, preschool, and adult health supervision. From one to six hours a month are spent in the school, depending on its size. In the school program the nurse acts as a consultant to the teachers, who are taught to make the health inspections and to do minor first-aid dressings. The crippled children service in the generalized program is greatly simplified by the fact that, due to the length of incubation period and the number of days of steamship travel from the mainland, there are very few cases of poliomyelitis, thus eliminating the highly specialized muscle grading and other skilled techniques of orthopedic nursing required on the mainland.

Home visiting is always interesting to a public health nurse, but it is doubly so to the newcomer in Hawaii. There are many customs new to her, some of which are easily learned. For example, a nurse naturally takes off her shoes upon entering a Japanese home when a whole row of sandals confronts her on the doorstep and when a glimpse through the open door reveals a spotless matting covering the entire floor. She finds herself unconsciously bowing in response to polite bows of Japanese and Korean patients, in greeting and leave-taking.

The Japanese have a superstition that it is very bad luck for a family to be visited by a nurse, a midwife, or a doctor—especially a woman doctor—within a ten-day period around the Christmas holidays. However, if there is a new baby—particularly a boy baby—this hazard is greatly offset by the good luck that the baby brings.

The nurse who gives antepartum service in a Filipino home meets with other superstitions. One of these is that a pregnant mother must never sleep during the day lest some harm befall the unborn child. It is apparently all right to sleep at night. The mother also ties a cloth very tightly around her waist in the form of a rope, to "keep the baby from getting too high in the stomach."

If a Hawaiian mother promises to give away her unborn child, which happens many times, she has to keep this promise or her child will be "kahuna'd" and will have some harm befall it. Also a Hawaiian pregnant mother must never wear a lei around her neck for fear that her baby will be born with the cord around its neck.

The Chinese mother eats pig's feet and ginger for one month after confinement so that she will have sufficient breast milk for the child.

Many of the Hawaiian foods are excellent in their protective qualities. Guavas, which grow wild, are a very good substitute for oranges. Taro is a staple food and very high in protective elements. Almost any rural family in the demonstration area can get bananas and papayas from its own fields. Papaya is also a good substitute for oranges. As a matter of fact, most of the Hawaiian fruits are very high in protective food elements. The oriental races use a preponderance of rice, and it requires a constant teaching effort to emphasize the importance of adding fruits, vegetables, and milk.

TEACHING IN THE HOME

Teaching is done by demonstration whenever possible. Postpartum and newborn care is demonstrated as soon as the new birth calls are received. Bed-side care is given on the floor in the homes, where patients sleep on mats or quilts. As in other parts of the country a constant educational process is required to teach patients the need for reporting

to the nurse early for care in case of illness, and particularly in pregnancy. However, it is very gratifying when the nurse begins to see results and when patients gradually report earlier to her.

The nurses receive help with the content of their teaching visits and their approach to patients, through weekly staff meetings. The Board of Health consultants take an active advisory part in planning these staff programs.

RURAL CLINIC SERVICE

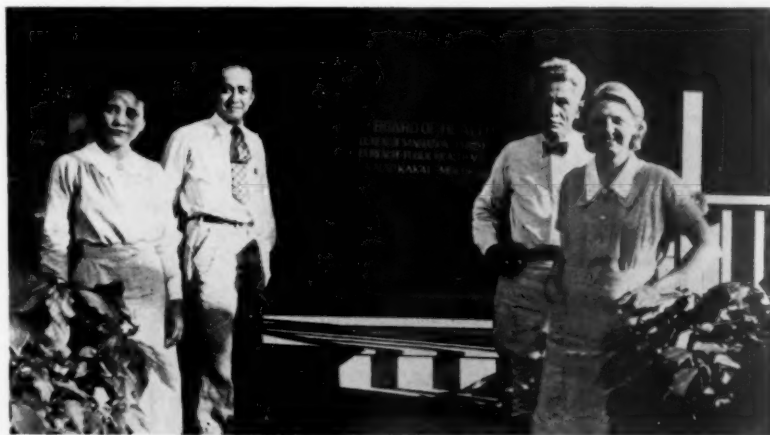
Home visits are supplemented by clinics. Transportation from the isolated districts to the health center is made possible by a very active community organization whose health committee has arranged to pay six cents a mile to volunteers offering their cars and their time. A maternal health conference is held twice a month at Kaneohe, where medical care is given by the local government physician. Each rural district in the Territory has a government doctor who is paid by Territorial funds to take care of the illness in his area when the patient cannot afford the services of a private physician.

Two nurses work in the clinic. Every procedure is utilized as much as pos-

sible for teaching purposes. The reasons for weighing, urinalysis, taking temperature, pulse, and respiration, and for each step of the medical examination, including pelvic measurement, Wassermann test, and vaginal smear, are explained to the patient. The last half hour before the doctor arrives is used for group teaching. A real effort is made to give a planned course of lessons which take the form of a group discussion. In spite of the pressure of time the patients seem to like the classes and respond very well.

The doctor is paid for each clinic session by the Bureau of Maternal and Infant Hygiene. A routine chest x-ray is provided by the Bureau for all primiparas. Hospital facilities are provided by city and county funds for the deliveries of first babies and for patients with complications.

A surprisingly large number of antepartum patients have never been to a doctor or had a midwife, either for antepartum care or for delivery. For all of their numerous children, they have had one of the men of the family (in the Filipino homes) or one of the aunts, cousins, mothers, or neighbors (in the Hawaiian homes) to deliver them. In spite of the fact that 25 percent of the



From left to right, Filipino nurse, Japanese hospital technician, Hawaiian sanitary inspector and "Hao'e" (Caucasian) nurse

mothers in the area have been delivered in this way, the district has been fortunate in not having a maternal death for the past two years. It is often difficult to persuade the mothers to attend the antepartum clinic, but after once coming they nearly always return.

CHILD HEALTH CONFERENCES

Child health conferences are also held twice a month. Appointments are staggered, according to age and need. The children are weighed and prepared for the doctor by the two nurses. A nurse interviews the mother following the physician's examination, to explain his recommendations and teach her how to carry them out.

Sometimes the Japanese babies come to clinic in kimonos with dragons on the boys' kimonos and appropriate patterns on the girls' kimonos.

While the children are waiting to be weighed and to see the doctor, their mothers are encouraged to let them play in the play corner, which at Kaneohe is a porch provided with blocks and other suitable toys. This play is utilized as a teaching experience for the mother, as are all the other procedures of the conference.

VOLUNTEERS ASSIST

The girls in the homemaking class at the Kaneohe junior high school assist at the conferences, two at a time, for a three-months' period each. They rotate from the weighing room to the play corner and their services are of real value in the smooth functioning of the clinic. They are given an orientation by a morning's observation at one of the best nursery schools in Honolulu and by an afternoon spent at the offices of the Board of Health. Three homemaking class sessions are used by the nurse to explain the history and functions of the service, and some of the problems. The girls who assist write up their observations, and also an account of each con-

ference session, with questions attached. Their comments are taken back to their respective classes and used as the basis for an educational project for the entire class.

These written questions and comments show the needs and growth of the girls. For example, at the nursery school the Japanese student observed: "After the child's work is done, the teacher praises him, and the child is eager to do anything. This is the way she teaches him."

Some of the problems which the girls encountered in the clinic were stated as follows:

I took care of one of the babies but she was frightened and refused to play with the toys. When she saw the other baby cry, she cried too. In such a case, what should you do?

Another girl wanted everything for herself.

The problem of bashfulness is known all around here with little children. It was hard to get them to play with other children.

Time is given by the nurse before or after conference sessions to discuss with the girls the significant aspects of their observations.

COMBATting SYPHILIS

A syphilis clinic is held once a week at Kaneohe. The clinic is attended by patients who are found to have positive Wassermann tests at the antepartum clinic, or who are referred by physicians or hospitals in Honolulu. Several patients with chronic sores, who were referred from the field to the clinic, were found to have syphilis. The nurses in the clinic endeavor to follow up the source and contacts of all newly reported patients with syphilis.

The Windward Oahu Community Association was originally sponsored by a group of far-seeing individuals who succeeded in getting financial backing for a full-time paid worker. Its objective was to enrich rural life and to make it more

attractive for young people living there. The plantations, of course, wanted to keep young people from migrating to the city. The organization is interested in all phases of rural life, recreational and cultural, as well as taking an active interest in the health of the whole community under the leadership of its health committee. This committee showed a moving picture on syphilis and secured a doctor from Honolulu to discuss the subject and answer questions. After seeing the picture many people came to the clinic voluntarily and requested a Wassermann test. Some of these tests were found to be positive.

The whole population of the islands is amazingly receptive to health education offered by movies or radio, or in the form of lectures. The schools are taking an active part in this health movement.

For example, the students of one high school held a radio panel discussion on the prevention, control, and treatment of syphilis.

The attitude of the patient toward his disease is a real problem here as elsewhere. This is aggravated by the fact that the rest of the small rural community soon learns that he is attending syphilis clinic for treatment and tends to isolate him socially. The nurses are attempting to overcome this attitude toward the disease by discussions with individuals and with groups in the clinic; by planned educational courses requested by groups of teachers; and by classes, moving pictures, and literature.

Nursing in Hawaii is an interesting and in many ways a unique experience, which challenges the best efforts of the public health nurse.

GOALS OF STATE HEALTH DEPARTMENTS

“ONE of the primary functions of a state health department is to promote the organization of adequate local health workers,” according to an article on “Public Health Nursing in State Health Departments” in *The Health Officer*, March 1939. The article goes on to list goals for state health departments for 1939. It hopes that every state health department will:

1. Organize all nursing services offered by the state health department into a unit so as to prevent duplication of effort and to utilize to the fullest extent the services of all public health nurses. Where nurses are employed by more than one state agency, an interdepartmental nursing committee is recommended.

2. Discontinue “direct service” to communities just as soon as an adequate local public health nursing service has been organized. If additional nursing service is needed in any special field, let it be given through and under the direction of the local health agency.

3. Promote special training in syphilis control, maternal and child health work, tubercu-

losis and orthopedic nursing for all general public health nursing supervisors or consultants. The objective should be, not more specialized supervisors, but more special training for all general public health nursing supervisors.

4. Coördinate all of the consultant services (child hygiene, milk sanitation, malaria control, dental hygiene, public health nursing, et cetera) offered by the state health department to local health agencies so that the state health department may move forward with a united front. This means the development of an efficient local health administration unit through which the directors of all special services will clear all matters which concern local health agencies.

5. Strengthen the program of staff education or “continued learning” in accordance with the specific problem and needs of the nurses in each state. A program of “in-service training” for all types of health workers is an essential part of any state health plan and many states have found that a certain number of combined sessions where all of the workers of a certain area meet to discuss common problems are extremely worth while.

Nutrition Service to the Family

By WILLIEDELL SCHAWÉ

Practical suggestions for the content and method of teaching family nutrition and a summary of recent research in nutrition are contained in this article

NUTRITION SERVICE to families under the care of public health nursing organizations is given, for the most part, by the nurse. What she includes in her nutrition teaching must be based on sound, up-to-date, scientific information, adapted to the needs of the individual or the family. She recognizes such factors as the diagnosis and condition of the patient, the physician's recommendations, and the intelligence and economic status of the family.

The nurse must believe so thoroughly in the part that good nutrition plays in health that she is willing to study the subject until she acquires a clear understanding of such terms as proteins, vitamins, and essential minerals which are vital to the structure and repair of the body tissues. She should know the quantity of carbohydrates and fats that will provide the energy needs. She should know which quantities and combinations of nutrients are optimum in certain conditions and faulty under other circumstances. She must be familiar with the new research and recognize its bearing on her teaching.

To bring all this to busy nurses and keep them informed requires the services of a specialist in nutrition and the success of a nutrition program depends upon the teamwork of the nurse and the nutritionist.

Although the nutritionist selects subject matter that may be easily applied and simplifies it for the use of nurses, it still requires decided effort on the part

of the nurse to assimilate this knowledge. When she acquires a good understanding of normal nutrition, she should be willing to apply it to her own food habits, thereby demonstrating in the most concrete way that her belief is genuine.

That the need for the teamwork of nurse and nutritionist is being recognized is evidenced by the number of nutritionists already on the staffs of visiting nurse associations, both public and private. During the past four years, 24 state health departments carrying on maternal and child health programs, under the provisions of the Social Security Act, have added at least one nutritionist to the administrative staff.* So far, no criteria have been established for the ratio of nutritionists to nurses, although one frequently quoted recommendation¹ is one nutritionist to twenty-five or thirty public health nurses. This goal has been reached in only a few privileged agencies. As yet, we have, unfortunately, often only one nutritionist to from fifty to six hundred nurses.

TYPES OF CASES

Almost every patient can benefit from the nurse's knowledge of normal nutrition. There are certain conditions, in

*Alabama, California, Connecticut, Delaware, Illinois, Indiana, Kansas, Louisiana, Maine, Michigan, Maryland, Massachusetts, Minnesota, New Hampshire, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Washington, Wisconsin, and Washington, D. C.

particular, in which doctors seem to appreciate dietary instruction from the nurse. These cases fall under the classification of malnutrition, fractures, antepartum and postpartum cases, and convalescents, particularly children recovering from communicable diseases. Fortunately the opportunity to render service to such cases is extensive, as they all appear frequently on the daily assignment sheets of public health nurses. The long-time supervision of these cases gives the nurse a chance to improve the food habits not only of the patient but of the whole family.

That advice on food selection may be needed regardless of the amount of money available to spend for food was brought out by a nationwide study, made by several federal bureaus,* of the food purchasing habits of 28 to 30 thousand families of wage earners and low-salaried office workers having a steady income.² The expenditure ranged from \$1 to \$6 per person per week. More than half of the self-supporting families in small cities spent less than \$3 per person per week and a large percentage of all families spent less than \$2. Naturally those spending \$1 weekly could not purchase even minimum essentials of an adequate diet.

All over the country families spending the same amount per person for food obtained diets of varying degrees of adequacy, depending upon their knowledge of food selection. In the North Atlantic states where food costs do not differ greatly, out of every one hundred individuals spending approximately \$1.60 weekly for food, two persons had a rating of Grade A (a diet adequate in all essentials with a margin of safety); 37 had Grade B (a protective diet of mini-

mum requirements); while 61 had a Grade C rating (a diet lacking minimum requirements). Knowledge of food value was the deciding factor in obtaining the higher grade diets. Instead of only two, all of the one hundred persons could have had protection against deficiency diseases and malnutrition if they had understood or wanted to buy foods giving the best value for the money spent.

Families spending as much as \$4 per person per week had a much easier time in getting a better general selection of food but even among this group there was quite a difference in the quality of the diets. Out of every one hundred persons, 77 had a Grade A diet, while 19 had a Grade B, and 4 had Grade C. Even with more money to spend, one-fourth of this group failed to make a Grade A rating because of lack of knowledge of or interest in adequate diets.

METHODS OF PRESENTATION

Undoubtedly some families do need more money for food, but other families need more knowledge of food selection. One of the points of attack that a public health nurse can use in her instruction is the selection of adequate diets for families with low incomes, as well as for those of higher incomes. A graphic method of presenting this is the construction of the food budget, if the nurse has the special training that qualifies her for this or if she can have close coöperation with the nutritionist. Even though a food budget cannot be made, suggestions for improvement can be given if the nurse uses good judgment in the selection of her teaching points. This was a plan followed recently in a home visit made jointly by nurse and nutritionist:

The patient was just up after the birth of her ninth baby. The family income was exceedingly low. The husband was overweight and drank heavily. The

*Government agencies assisting in making the study were the Bureau of Home Economics, Department of Agriculture; Bureau of Labor Statistics, Department of Labor; National Resources Committee, Central Statistical Board; and the Works Progress Administration.

wife was malnourished, nervous, and stayed too closely at home. She was anxious to prepare foods which her husband preferred, even when they were most inappropriate for the children. Her house was untidy, and the children were not kept clean. The mother and children had very badly decayed teeth.

There were three incentives to guide the nurse in making dietary suggestions; namely, the mother's desire to nurse her baby, her distress over her fatigue and paleness, and the decay of her own teeth and those of her children. The three following dietary changes were made because they were so urgently needed and were possible in spite of the low income of the family and their degree of intelligence:

1. The first recommendation was to increase the milk from 3 quarts to $6\frac{1}{2}$ quarts daily, at an additional cost of \$1.03 weekly or approximately 15 cents daily. It was pointed out that this increase could be adjusted by other changes in food selection or by the omission of nonessentials. More than doubling the milk allowance at such a slight increase in expense was made possible by buying daily only one quart of milk at 12 cents per quart and $5\frac{1}{2}$ cans of evaporated milk at 7 cents per can. In stressing this quantity of milk, the points were made that the lime in the milk would give better protection to the teeth of the mother and the children; the lime and other substances—minerals and vitamins—might help the mother's nervous condition; all the building materials in the milk were the same as the ones she was trying to supply in her milk for the baby; there were other substances in milk—proteins and vitamins—which would make her children grow, improve their appetite, and supply the same kind of material found in meat and eggs.

Suggesting ways of using evaporated milk—other than as a beverage—re-

quired considerable explanation at this visit. Recipes for preparing foods made largely with milk were given to the mother.

2. The mother baked her own bread, using about 40 pounds of white flour weekly. The adequate amount of flour for bread making for this size family is approximately 30 pounds. When the lesser quantity was suggested, the mother protested that her family could not get along on this amount. It was pointed out, however, that the additional dishes made with milk would take the place of some of the bread and the saving on the flour would approximate 60 cents. This could be applied to the increased cost of the milk.

Then it was explained that if half of the flour were in the form of dark whole grains, as whole wheat and rye, the bread would contain more substances to make the children's blood red, would help them to have better elimination, better appetite, have stronger bones and teeth, and that the quality of the mother's milk would be improved.

3. No exact number of pounds of meat was suggested, because a full food budget was not made at this visit. But because of the mother's need for additional protein during lactation, her apparent symptoms of anemia, and her need for extra vitamins A, B, and G, it was decided that it would be safe to suggest a few pounds of pork liver in view of the family's low income. Liver is an excellent source of these nutrients, and has no waste in the form of bones and trimmings. It was pointed out that pork liver contains more iron to make the blood red than other livers such as beef, lamb, and calf³ and that its cost is considerably less. At least two pounds were suggested to take the place of some of the meat usually purchased.

In addition to stressing the function of liver in the diet, ways of cooking it, other than frying, were suggested. Rec-

ipes for preparing liver dishes were left with the mother. Fortunately the father liked liver, and it was not hard to interest the mother in using it more frequently than had been her custom.

To summarize, the three changes that were suggested were increased milk, decreased bread with half of the flour for bread making in the form of whole grains, and two pounds of pork liver weekly.

Since the husband happened to be home at the time of the visit, the nurse asked him to let his wife try out the suggestions for at least a week so that they might experiment with the changes. He agreed to this and also to the suggestion that once weekly his wife should do the food purchasing; in the past he had done it all. This plan also served the purpose of getting the mother out of the house where she had been accustomed to stay too closely.

The case just cited shows that even when the income is low and the family set-up seems quite hopeless, there is some nutrition teaching that can be done. Of course it takes extra effort and knowledge on the part of the nurse to teach such families, and also calls for good judgment in selecting the points to emphasize. It requires more patience and a longer period of waiting to see results than with a better type of case.

VISIT BY NURSE AND NUTRITIONIST

The occasional home visiting of the nurse and the nutritionist together is an important part of the nutrition service to the family. It is in such cases as the one just described that the nutritionist can demonstrate in actual home situations the advisable nutrition teaching under varying circumstances, and, equally important, it helps the nutritionist to keep in touch with family problems.

Another advantage of having the nurse and nutritionist visit the home

together is the opportunity to discuss later the possible approaches in presenting nutrition teaching. While the nurse knows much to teach about nutrition, she must also develop a technique for using this knowledge which will influence the patient to change already established food and health habits. A nurse once said, "When I have told a patient she should use such foods as one pint of milk, an egg and a potato daily, some citrus fruit, and have at least one half of the cereal products she uses of the dark variety, I am through and there is nothing else to say."

PRESENTING INFORMATION

There are a few guiding principles to help nurses in their nutrition teaching. Early in the visit, let the patient talk so that the nurse will learn her usual health practices. Ask a few pertinent questions which will reveal the weak and strong points in the food habits of the patient and the family group which will supply a lead for explaining *why* certain foods should be changed or added. For example, the patient might be asked, "How are you feeling? How many meals do you eat daily? How well do you digest your food? How often do you have normal elimination? When is your usual time for elimination?" By asking these questions and withholding comments until all have been answered, the patient is more likely to present a true picture and a teaching plan may be formulated slowly and more consistent teaching can take place later.

By asking these questions on a recent visit to a patient with a heart condition, a good picture of the patient's physical condition and her health and food habits were obtained from the answers.

The patient revealed that she was exceedingly nervous, slept poorly, had so-called rheumatic pains, was short of breath and pale, had frequent colds, and a poor appetite. She could not digest her food easily and apparently had

difficulty tolerating milk and fats. She was troubled with constipation and had no regular toilet habits. She ate no breakfast but was accustomed to eat rather heavy lunches before going to bed, and she slept quite late in the morning.

The patient was intelligent, had a good standard of living, was up and about, and was at a loss to know how to improve her physical condition.

The nurse continued to make advisory visits after bedside care was no longer needed. The doctor wanted the patient to eat a normal diet but depended upon the nurse to give the detailed instruction.

The fact that the patient ate no breakfast was a clue to one of the causes for her constipation; the omission of many foods appropriate for breakfast probably contributed also to her symptoms of anemia, lack of appetite, nervousness, and perhaps to her so-called rheumatism. A wisely selected breakfast would help to guard against deficiencies contributing to such conditions. There should be foods with laxative qualities, iron, and vitamins B, G, and C. Low resistance, lack of good digestion, fleeting pains in the muscles and joints, and poor functioning of the nervous system may all be symptoms of nutritional deficiencies.

Without breakfast the patient did not have the natural urge for elimination a short time after eating. Possibly her poor digestion was caused by a lack of sufficient vitamins, long intervals between meals, heavy meals before going to bed, constipation, and doubtless to her worry over her physical condition and not knowing what to do about it.

Her poor digestion of fat seemed to be due to the kind she was eating and to the fact that she ate many fried foods and rich salad dressings.

Her low resistance to colds may have been influenced by the lack of sufficient protective foods in her diet, especially

vitamins A and C, and her low milk consumption. She ate few green vegetables, used little water, and her use of citrus fruits could be improved.

While this analysis was not given to the patient it was used as a basis for formulating dietary suggestions and correcting bad health habits. She was advised to have three meals a day at regular hours, beginning with breakfast, and to establish a regular toilet habit right after breakfast. The specific suggestions were:

1. Whole grain cereal with wheat germ added (for iron, and other minerals, vitamins, and roughage). As a group these nutrients would help the appetite, increase hemoglobin, and improve elimination and digestion.

2. No night lunches before going to bed except for easily digested fruits.

3. One quart of milk was added especially for calcium and vitamins. Homogenized milk, such as evaporated milk, was suggested for ease in digesting fat. Evaporated milk also has a curd of finer texture than ordinary milk and may be more easily digested.

4. No fried foods were to be included; butter was to be used sparingly and uncooked until the digestion improved.

5. Since the doctor approved of the patient taking codliver oil, with the approval of the physician, it was advised that this food be taken in tablet form in place of the liquid fish oil which would reduce the quantity of fat in the diet.

6. Green leaf vegetables were to be used once daily for their roughage, iron, and vitamins (especially A and riboflavin).

After this patient had followed the suggested program for six months, she showed marked improvement in appearance. The pain was leaving her body, especially her chest. Her doctor said her heart condition was much improved,

her diet habits were perfect, and her nervous condition had largely disappeared.

APPLICATION OF RECENT RESEARCH

So extensive are the nurse's opportunities to give food instruction that one could continue indefinitely citing case stories which emphasize other phases and methods of nutrition teaching. However, it might be well to consider some newer research which confirms some of the teaching already done by public health nurses and provides further information for their use. While, for the most part, these references relate to diets during pregnancy and lactation, often they have equal significance to all growth periods and during convalescence; therefore, applicable to the family as a group.

VITAMIN C

The need for vitamin C, ascorbic acid, is increased during infection, fever, and lactation. None of us would question the importance of vitamin C in everyone's diet in preventing low resistance and subclinical scurvy, particularly during the growth periods, including pregnancy and lactation. Experimental evidence is accumulating to show that high reserves of vitamin C in the tissues gives them greater resistance to the invasion of bacterial infection^{4, 5} by preventing disintegration of connective tissue. Many recent reports emphasize the fact that during infection, such as tuberculosis, and probably in all fevers, there is need for larger amounts than normal of vitamin C.⁵ Some authorities give the quantity as being five times the normal requirement or approximately three 8-ounce glasses of orange juice or its equivalent in other fruit juices daily.^{4, 6} This practical statement gives the nurse a basis for definite recommendations concerning the quantity of orange juice or its equivalent for patients with fever.

If the person in the home caring for the patient knows what the nurse means by the term "force fluids" and the effect that citrus fruit has on recovery, she will follow out more intelligently and accurately the doctor's and nurse's recommendations.

With pregnant and nursing mothers the nurse will want to extend her teaching on the importance of large amounts of vitamin C. The need for vitamin C is doubled during pregnancy and this increased need extends into the nursing period as well. Expectant mothers with prolonged hyperemesis gravidarum may acquire severe vitamin C deficiency.⁷

The vitamin C content of mother's milk is particularly important during the early weeks of the nursing period and until the doctor thinks it advisable to add orange or tomato juice as a supplement to breast feeding. Since in nursing women the need for nutrients in their milk takes prior place over their own body needs, the vitamin C in the breast milk may be adequate at the expense of the mother's tissues unless she is taking optimum quantities of this vitamin. In a special study reported recently it was found that in the usual diet of a maternity ward the ascorbic acid, vitamin C, of mother's milk provided 28 milligrams daily for the baby. Although this met the baby's minimum needs, when liberal amounts of vitamin C were added to these mothers' diets, the quantity of vitamin C in their breast milk increased to 46 milligrams per day, providing for the baby's optimal needs and protecting the mother.⁷

It is well to review the comparative value of vitamin C in orange juice, citrus fruit, and apple. Oranges are our richest source. Lemons are also good but because of their tartness cannot be taken in such large quantity at one time as orange juice. Grapefruit and tomato juice can be alternated with orange juice, and the juices of canned fruits and fresh fruits such as apples, bananas,

pineapples, and cantaloupes are often practical additions.

VITAMIN B₁

A second point for emphasis in the nurse's teaching is in regard to the need for vitamin B₁, now generally called thiamin. On good authority we are told that during pregnancy the amount of vitamin B₁ should be increased to double the normal amount and during lactation to triple the amount.⁴ Some of the functions of this vitamin are: to improve the appetite, digestion, and absorption of food; build resistance in the alimentary tract; stimulate good elimination; assist in the utilization of carbohydrates; and contribute to a good supply of milk during lactation. The more carbohydrates eaten, the greater is the need for thiamin, vitamin B₁. Symptoms that have sometimes been attributed to toxemias of pregnancy and associated with high protein intake may be due to a high carbohydrate diet with insufficient amount of vitamin B complex.⁸ The lack of this vitamin in a high carbohydrate diet may lead to such symptoms as numbness of the toes, edema, heartburn, fatigue, and excess gain in weight.

In order to supply a generous amount of thiamin emphasis should be put upon the use of whole-grain cereals, preferably with wheat germ added, eggs, liver, legumes, and a variety of vegetables and fruits. To guard against the loss of B₁ and all water soluble vitamins the methods of cooking foods should receive special attention. The juices should be preserved and used, and the cooking should be shortened as much as possible. This applies especially to the cooking of vegetables.

In some cases of pregnancy, especially when there may be some of the symptoms of lack of vitamin B₁ or where the ability to nurse the baby is in question, the doctor may suggest crystalline vitamin B₁, or one of the other approved

concentrates. It is obvious that since the need for vitamin B₁ is tripled during lactation, equally as close attention should be paid to securing this vitamin during that period as during pregnancy.

VITAMINS A AND D

There is an increased need for vitamins A and D during pregnancy. The doctor's growing recognition of the value of all forms of fish-liver oils in the diet during pregnancy has made it possible for the public health nurse to extend her teaching about these vitamins. Vitamins A and D, both found in fish-liver oils such as halibut-liver oil, codliver oil, or in A and D tablets are needed to protect the health of the mother and improve the growth of the baby. It is important for the nurse to stress the need for these vitamins both during the summer and winter months. When the expectant mother has discontinued the use of fish-liver oil during the summer, and is questioned about this, she usually replies that since there is so much sunshine during the summer the fish-liver oil can be omitted. While this does apply to vitamin D, which can be produced in the skin with the help of direct sunlight, vitamin A can only be secured from the foods which contain it.

A much greater quantity of vitamin A than of vitamin D is needed at all times. Therefore, the loss of the extra vitamin A through the discontinuance of fish-liver oil in the summer may be a contributing cause to the expectant mother's lowered resistance. This may manifest itself especially at the time of childbirth and during the lactation period.

It is a generally accepted fact that an insufficient amount of vitamin A causes changes in the mucous membranes which renders them susceptible to a variety of diseases in which bacteria act as the causative agents. The intensity and duration of the common cold in vitamin A deficient bodies is an example of this low resistance.⁹ The prevalence of dental

decay may be another evidence of vitamin A deficiency. Night blindness, the inability of the eye to adapt itself to alterations in intensity of illumination, is one of the first symptoms of lack of vitamin A.¹⁰

Apparently the expectant mother is unable to store large amounts of vitamin A in the body of her unborn child, but vitamins A, D, and C in her diet help to lay the foundation for well-formed teeth and bones in her baby, and protect her own teeth and bones. The mother's colostrum is also rich in vitamin A, showing that the infant needs this valuable protection soon after birth.

Vitamin A is needed in very large amounts during all periods of growth. Fortunately vitamin A is found in a variety of foods; especially in whole milk, cream, butter, green leaves, many yellow-colored vegetables and fruits, egg yolk, liver, and fish-liver oils.

The requirement for vitamin D during pregnancy takes on additional importance when we consider some of the findings of recent research. Dr. E. V. McCollum of Johns Hopkins University in an address summarizing recent advances in nutrition research, refers to the clinical findings of Dr. G. C. Richardson, clinician in charge of the antepartum clinic at Northwestern University Medical School, which shows that high vitamin D administered to 900 women during pregnancy shortened the length of time of labor. Even with primiparas, the time was reduced about one-third and the loss of blood at parturition was less in all the vitamin-treated women. Dr. Richardson attributes this to the improved general condition of the patients, increased coagulating power of the blood, and more adequate clamping of the vessels due to improved muscle tone.^{6, 11} So far as we know, Dr. Richardson's work is the only published evidence on this subject. But his findings and the other known needs for vitamin D in good bone and tooth development

and protection make us more alert to observe whether the antepartum patients are getting generous amounts of vitamin D.

When the doctors do not approve of their patients getting vitamin D from fish-liver oils, very special effort must be made to secure adequate amounts from food and exposure to sunlight. Foods are not rich in vitamin D. The amount in egg depends upon the diet of the chicken, but at best it is not high, although eggs are the richest food source aside from fish-liver oils. Cream and butter contribute small amounts, depending upon the diet of the cow. Milks that are enriched with vitamin D make them good sources. But it is doubtful whether all these foods would supply as much as is needed during pregnancy without the addition of a concentrated source such as potent fish oils.

Sunshine enables the body to manufacture its own vitamin D at certain times of the year. According to the Wisconsin Alumni Research Foundation,¹² sunshine from September to March contains fewer ultraviolet rays than during the summer months; less than half as much ultraviolet is available during the winter months; and during December less than one-eighth.

Considering the smoke, dust, and fog in some localities, all poor conductors of these valuable rays, and the tendency of many women to bundle up in coats, buttoned to their chins, scarfs and gloves, makes us realize that a very small amount of ultraviolet reaches the bare skin.

PROTEIN NEEDS

A third point to be watched in the diet of the expectant mother is the unnecessary restriction of protein without the definite recommendation of the doctor in charge of the case. This self-imposed dietary limitation, especially during the latter months of pregnancy, may contribute to ill health and influence

the quality of the mother's milk. Dr. M. B. Strauss, instructor of medicine, Harvard Medical School, points out that diets low in protein may be the cause for toxemia with edema during pregnancy and he reports clinical evidence of successful treatment for such conditions by feeding high protein diets supplemented with vitamin B and liver.^{6, 13} Therefore under normal conditions, there is no reason to believe that liberal protein in the diet during pregnancy is the cause of toxemia. "On the other hand, marked restriction of protein over prolonged periods during pregnancy and lactation may result in diminished serum proteins with attendant edema, negative nitrogen balance, and indirectly, anemia."¹⁴

Protein of high biological value should be included in the daily diet of all women with normal pregnancies. These proteins would be provided through one quart of milk, one egg, and a generous serving of meat or fish. The other proteins from vegetables, fruits, and cereals will not be well utilized unless combined with the protein of high biological value from animal sources.

The right quantity of protein of high biological value, together with iron, copper, calcium, and probably all the vitamins, especially vitamin C, are needed to protect against anemia. Such symptoms as decreased vitality, fatigue, and shortness of breath may indicate nutritional anemia. Iron is also needed for storage in the baby's body. Since the total iron in the mother's body is only about one-tenth of an ounce, and the life of the red cells averages about six

weeks, she must have a day-to-day supply of iron-bearing foods to meet her body's requirement. Under normal conditions the daily requirement is approximately 12 milligrams, while during pregnancy the requirement suggested by the League of Nations Technical Committee is 18 milligrams.¹⁵ Dr. Clifford B. Lull of the Philadelphia Lying-In Hospital points out that unrecognized or inadequately treated anemia of pregnancy probably plays an important part in the development of many complications of pregnancy and labor. In parturition he mentions such consequences as premature birth, dental caries, faulty lactation and, because of lowered resistance, infection such as tuberculosis.¹⁶

The foods rich in iron are egg yolk, lean meats, liver, whole-grain cereals, dark breads, green leaf vegetables, legumes, and a variety of dried fruits.

In conclusion we may state that the public health nurse has an enviable position in her opportunity to teach. Likewise she has a difficult position to fill because of the mass of subject matter she must know and the discrimination she must exercise in relating it to every age and adapting it to the needs not only of the sick patient but of the family as a whole. In order to uncover the needs of the family and suggest changes, the nurse must apply the best principles of psychology and of teaching. Fortunately for her, her usual long contact with cases, especially antepartum and postpartum, makes it possible for her to measure the effectiveness of her teaching.

REFERENCES

¹ Smillie, Wilson G. "Place of the Nutritionist in the Public Health Program." *Medical Woman's Journal*, December 1937, p. 347.

² Stiebeling, Hazel K. "Some Previews of an Analysis of American Diets." *Medical Woman's Journal*, November 1937, p. 313.

"Food Patterns." *Consumer's Guide*, June 14, 1937.

League of Nations. Nutrition—Final Report of the Mixed Committee of the League of Nations on The Relation of Nutrition to Health, Agriculture, and Economic Policy. Columbia University Press, New York, 1937.

⁸ Elvehjem, C. A., and Peterson, W. H. "Iron Content of Animal Tissues." *Journal of Biological Chemistry*, September 1927, p. 433.

⁴ Rose, Mary Swartz. *Foundations of Nutrition*. The Macmillan Company, New York, third edition revised, 1938.

⁵ McLester, J. S. "The More Abundant Diet." *Journal of the American Dietetic Association*, January 1938, p. 1.

Abbasy, M. A., Harris, Leslie J., and Ellman, P. "Vitamin C and Infection." *Lancet*, July 24, 1937, p. 181.

Faulkner, J. M., and Taylor, F. H. L. "Vitamin C and Infection." *Annals of Internal Medicine*, June 1937, p. 1867.

⁶ McCollum, E. V. "Recent Advances in Nutrition Research." *Journal of the American Dietetic Association*, January 1938, p. 8.

⁷ Teel, Harold, Burke, Bertha Sharply, and Draper, Ruth. "Vitamin C in Human Pregnancy and Lactation." *American Journal of Diseases of Children*, November 1938, p. 1004.

McCollum, E. V., Orent-Keiles, E., and Day, H. G. *Newer Knowledge of Nutrition*. The Macmillan Company, New York, fifth edition, 1939, p. 428.

⁸ Elson, Katherine O'Shea. "Practical Aspects of Vitamin B Deficiency." *Medical Clinics of North America*, July 1937, p. 1229.

⁹ Cameron, Hazel C. "The Effect of Vitamin A Upon Incidence and Severity of Colds Among Students." *Journal of the American Dietetic Association*, September 1935, p. 189.

¹⁰ Jeghers, Harold. "Night Blindness as Criterion of Vitamin A Deficiency." *Annals of Internal Medicine*, March 1937, p. 1304.

¹¹ Richardson, G. C. "Viosterol in Pregnancy." *Illinois Medical Journal*, April 1934, p. 367.

¹² Laurens, Henry. *Physiological Effect of Radiant Energy*. Reinhold Publishing Corporation, New York, 1933, p. 44.

Blunt, Katherine, and Cowan, Ruth. *Ultra-violet Light and Vitamin D in Nutrition*. University of Chicago Press, Chicago, 1930.

¹³ Strauss, M. B. "Nutrition Deficiency and Water Retention in Toxemias of Pregnancy." *Journal of Clinical Investigation*, October 1935, p. 710.

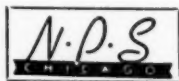
¹⁴ Teel, Harold and Burke, Bertha Sharply. "Diet During Pregnancy and the Nursing Period." *Medical Clinics of North America*, March 1937, p. 547.

Strauss, M. B. "Nutritional Requirements and Deficiencies in Pregnancy." *Journal of the American Dietetic Association*, April 1939, p. 231.

¹⁵ Garry, R. C. and Stiven, D. "Review of Recent Work on Dietary Requirements in Pregnancy and Lactation." *Nutrition Abstracts and Reviews*, April 1936, p. 855.

¹⁶ Lull, Clifford B. "Diagnosis and Treatment of Anemias of Pregnancy." *Medical Clinics of North America*, July 1937, p. 1185.

NURSE PLACEMENT SERVICE



announces the following placements from among appointments made in the various fields of public health nursing. As is our custom, consent to publish these has been secured in each case from both nurse and employer.

Margaret Nichols, Instructor in Public Health Nursing (Summer Session), University of Kentucky, Lexington, Ky.

Theresa Jenniges, Field Supervisor of Teaching Center under Loyola University and Tuberculosis Institute of Chicago and Cook County, Chicago, Ill.

Mary Helterline, Generalized Supervisor, Atlantic Visiting Nurse and Tuberculosis Association, Atlantic City, N. J.

Mrs. Edith Watkins, Supervisor, Red Cross Nursing Service, Lincoln, Nebr.

Margaret Patterson, Staff Nurse, Visiting Nurse Association, Colorado Springs, Colo.

Natalie Kolski, Staff Nurse, Red Cross Nursing Service, Fort Wayne, Ind.

Altha Hallam, Staff Nurse, Visiting Nurse Association, Milwaukee, Wis.

Mrs. Jean Renault, Nurse-Director of Health Camp, Washington County Tuberculosis and Health Association, Cambridge, N. Y.

Isabel Mayer, Camp Nurse, Camp Watervliet, Watervliet, Mich.

Maxine McCormick, Camp Nurse, Holiday Home Camp, Lake Geneva, Wis.

Assisted Placements

Helen Flanagan, District Supervising Nurse, Utah State Board of Health, Price, Utah

Mary McQuillen, Director of Public Health Nursing, Southeastern Chapter, American Red Cross, Philadelphia, Pa.

Isabel Waterhouse, Director of Infirmary and Instructor of Hygiene, Hood College, Frederick, Md.

Myrna Campbell, Itinerant Nurse, American Red Cross, Calif.

Kress Holst, County Nurse, under State Department of Health, at Carrizozo, Lincoln County, N. Mex.

Not Much to Do

By GENE HARRISON, R.N.

Every public health nurse who has ever lived through this kind of an experience at the end of a tired day—and what nurse has not—will identify herself with the “Mary” of the story

MARY looked at her list of instructions once more. “Better make this call last. There won’t be much to do.”

“Not much to do . . .,” she sighed, as she shifted the black bag to her other hand, and mopped her forehead with a soggy handkerchief. “Even if it is late, it won’t be so bad. The ride back should be pleasant enough.”

Maternity calls were usually made first. But this one was in a far suburb. The baby had been born at 6:30 a.m. The mother was fixed up by a neighbor, and the baby cared for, of course. She’d have to make sure the mother’s uterus was properly contracted and the lochia normal in character and amount. And she would take her temperature. Thank goodness, she would not have to write a long history. This had been done by another nurse on an antepartum call. There was the baby, of course—its temperature to take, and the cord dressing to inspect. Weight—would she dare to leave that till morning? No, it was important to have the weight on the first visit. That meant stripping the baby. Mary loved the squirming, helpless little morsels of humanity, and did not mind this task so much even if it was late.

Why didn’t the car come? Oh, there it was at last. But as it neared, she noted that it did not slacken its speed. The overcrowded aisles would hardly have afforded a chance for a strap, much less a seat. Those cars only came every fifteen minutes—thirty minutes during

the less busy hours. Mary wiped her face and forehead again, straightened her black hat to the proper slight angle, and shifted her weight to the other foot. She tried to let her mind go blank so that she might rest. It was 4:15. She was supposed to stop her work at 4:30 if possible, certainly at 5:00. But this call must be made. Things she had not counted on had made her later in starting than she had planned. Oh, well, she’d get there by five, with luck. And there wouldn’t be much to do.

In spite of her attempt to let her mind go blank, Mary was acutely aware of every car that passed; aware that it was fully twenty-five minutes before a number 96 came to a stop. A second car had gone by without pausing. But this one had two empty seats. After all, it had been easier standing on the street than it would have been standing in a swaying car.

When she finally arrived at the unfamiliar suburb, Mary went into a drug store to ask directions to the patient’s address. “Whyn’t you ask the motor-man? Ought to have got off three blocks down.” She *had* asked him, but he was new and didn’t know. It took too much effort to tell the druggist. Just as well let him think she was stupid. So she waited for him to go on. “Back three blocks, then turn to the left. Two blocks down hill, and there you are.”

Mary thanked her lucky stars it was only five blocks. Sometimes she had to walk ten or twelve after leaving a car. When she had gone the distance and

direction stated, she looked in vain for the house number. There were none in that block. But a lanky boy watching at the door of a shabby, tree-shaded cottage called out shrilly, "Here she comes!"

Mary was used to having boys and girls excited when she came, especially when there was a new baby—providing there weren't already too many. But there was something in this child's tone which prepared her for the worried face and eager voice of the woman who came to the door. "Thank the Lord you're here!"

Mary's heart sank. What had gone wrong? Should she have come earlier, even though the supervisor had suggested that this call be made last? The nurses were supposed to use their judgment, and the supervisor hadn't expected her to be so late.

When she stepped into the room, Mary glanced at the bed where the mother lay. Everything was in apple-pie order. True, the mother looked worried, and her face was flushed. Well, she couldn't be hemorrhaging with those red cheeks, so Mary turned to the clothes basket on two chairs by the window.

"Baby's been fixed up. He's all right," the neighbor said. "Mother's fixed, too. They don't need anything." A glance at the pink little face, fist in mouth, told Mary there was nothing radically wrong there. What was the excitement all about? She looked around the room—and then she knew.

In a corner at the foot of the mother's bed sat a neighbor holding an older baby in her arms, a child perhaps eighteen months old. Its face was white and drawn.

"It's this one," the neighbor explained. "She's awful sick."

Mary had to think quickly. She mustn't excite the mother.

"Better bring her out into the other room," she said to the woman who held the sick child. "We can examine her

better there." Once out of the mother's hearing, she asked, "How long has she been sick? Has a doctor seen her?"

"No—she just got sick this afternoon, and we thought you'd know what to do."

"What happened? Hadn't she been sick at all before?"

"No—chipper as usual, though she's not over strong at best. Mrs. Brown, her in there, was trying to do some washing between waiting on the mother and babies. I wasn't here. She said little Bitsie started to cry. She looked, and little Bitsie had a piece of soap in her hand. Had rubbed some in her eye, Mrs. Brown thought. She washed Bitsie's eyes, and the child stopped crying. But pretty soon she began to vomit."

"Did she vomit soap?" Mary asked.

"Yes, I thought so. Well, I'm right sure there was some pieces." Mrs. Brown had come from the other room. "Looked like pieces of soap, and there was some foam. I couldn't be awful sure what it was, but there's tooth marks on the soap she had in her hand. Don't know how much she'd et, neither. But she got sick the quickest any child I ever see."

"When was that?"

"About three."

While asking questions, and listening to answers, Mary had undressed the hot little body. The child's temperature was 104 degrees.

"Is there a telephone here?"

"No, nor none of the neighbors. Nearest's the drug store."

Five blocks! She went to the mother. "I'm afraid we must call a doctor for Bitsie," she said, as casually as she could. "Who is your family doctor?"

The mother hesitated. Tears came to her eyes. "Could you call the doctor who brought the baby?"

"That doctor only takes care of mothers and new babies," Mary told her. It wasn't necessary to explain that he was an extern from the state university hospital, and couldn't even go out on ma-

ternity cases except for the hospital.

"I didn't know that. We—we couldn't afford to pay our own doctor." Tears overflowed and ran down her cheeks.

Mary reflected rapidly.

"I could call the city hospital," she said. "Shall I do that?" Mary didn't want to hurry the mother, but she thought there was no time to waste. "Shall I call them? They will send a doctor."

With the mother's consent to call the hospital, Mary went back into the other room. The child was still lying on the cot. "Just leave her there if she's quiet," she told the older woman. "That diaper is cover enough. She's so hot." Then, to Mrs. Brown, "Does the new baby have a bottle? Has it had any water?"

"No—I've been that worried about this one. I could boil up a bottle. There's some of Bitsie's left, but there's no nipples."

"Send the boy to the store for a couple of nipples. Boil them and the bottles, and some water. You know how, don't you?"

"Yes, I'll do it right. I know babies and their mothers. But when it comes to sick ones like Bitsie . . ."

It was five blocks to a telephone. The boy couldn't go on that errand. Mary arrived breathlessly. The city hospital answered soon enough, but the ambulances were all out. They didn't know when they could send one. Mary explained the urgency. "Probably a poisoning case." Well, they'd do their best.

Five blocks back. In what condition would she find the child? What would she do if the doctor didn't come soon? The older woman had the baby on her lap.

"Mrs. Brown, do you have some of that boiled water left? Will you bring me a little, and a spoon?"

As Mary feared, the temperature was climbing higher. The warm water fed drop by drop was eagerly taken. Should

she give enough to make her vomit? Would the strain be too great? The child was dehydrated already. Was there still soap in the stomach? Would she cause more of it to be absorbed by giving the water? Emetics were indicated in poisoning. Warm water was all she would venture. Or would milk be better?

Why, oh, why had none of her books or lectures ever told her what to do when a poor, frail little baby ate laundry soap? Just the most common thing in any home, the thing any child could get hold of. Bichloride, now—she's been drilled and drilled on what to do if it were bichloride, or any acid, or a strong caustic. Soap was caustic. At least yellow laundry soap was, but would this cause a temperature of 104 degrees? Milk . . .

When Mary felt she just couldn't bear much more responsibility, she heard the heavenly clang of an ambulance bell. In a few minutes a comforting, white-clad doctor with the city's insignia on his arm band was examining the baby and asking questions.

"Seems a mite better," Mary told him.

"Plenty sick yet," he answered. "Pretty sick baby. Should go to the hospital at once. How about it?"

"I'll ask the mother."

"I don't know what her father'd say," sobbed the mother. "He hates hospitals. He's afraid of them. I don't know—does the doctor say she *must* go?"

Mary already knew there was no way to reach the father, and he might not be home till late. Truck drivers never knew just when they would get in. She mustn't excite the mother though.

"He seems to think it's important," she said, gently. She thought fast. She mustn't mention stomach pumps, or hypodermics, or saline injections lest the mother refuse to let little Bitsie go to the hospital and that would be fatal. So she said, thinking desperately of something — anything — that wouldn't

frighten the mother. "They might take an x-ray, you know. Don't you think her father would want them to know for sure if the soap was all gone?"

"I—I don't know—little Bitsie is our only girl. We lost the other one. Her father—he'd be brokenhearted if—if anything happened—if she went and—and—he'd always blame me. And if I said no and—it happened—oh, what shall I say? What shall I say?"

"Get her to hurry if you can," the doctor whispered. "Otherwise . . ."

Mary took the fragments of her courage into her hands and made a plunge. "The doctor says she ought to go, and I think your husband would want her to go under the circumstances. If you said 'no' wouldn't he be cross when he came home and found her so sick?"

From what she had gathered, he'd likely be crosser when he came home and found the baby gone, Mary thought. But what was a cross husband to a dead baby?

"Well—tell the doctor to take her."

Mary was thankful when she saw how gently the doctor lifted the baby; thankful that Bitsie was looking up into his face trustingly as he carried her by the mother's bed; thankful when she saw him sitting by her side in the ambulance, smiling down into the pale little face.

"He must have a baby of his own," she told the mother.

What time was it now? Mary could hardly believe her eyes when she looked at her watch and found it was only 6:30. Late enough, but she'd lived a century since she boarded the car downtown. Well, she'd finish things up here as fast as she could, and get on home. Good thing feet became numb after they had hurt about so long.

She would make sure the mother and new baby were all right. Mrs. Brown, she knew, had given the baby all the water it would drink; seemed to know how to take care of that. She would

take his temperature and look at the cord dressing. No, that wouldn't be necessary if the band was all right. She would omit the weighing after all. She would see how the mother's temperature was, make sure there was no excessive bleeding, maybe bathe her face, and reassure her as best she could. But first she would go to the kitchen and wash her hands.

In the kitchen she found Mrs. Brown in tears, with the other neighbor trying to comfort her. "Don't pay him no mind, Mrs. Brown," the older woman was saying. "He's just a kid. He didn't mean anything. He's a good boy, and he's worried about his mother and Bitsie."

"He didn't need to talk to me that way! I've been doin' all I could for them since this time yesterday. I just wanted he should bring in some more water."

Mary sighed. What was this tangle? She agreed with the older neighbor that Mrs. Brown was making a mountain out of a molehill, when she found it was all because the boy thought three buckets of water were enough at a time, and told her she couldn't boss him around. "Guess maybe I was too cross. But I'm tired, and he didn't need to say I was meddlin' when I told him his face was dirty."

"Of course you're tired," Mary soothed her. "And he is just a child. Forget it. He won't do it again. Don't let his mother know."

When Mary went into the front room, she found it was too late to save the mother from this additional worry. The boy was leaning on the head of the bed, looking down at his mother with tears in his eyes.

"Aw, gee, Mom, I didn't mean to be sassy. But three pails one after another—gee, I'd a brought six and glad to if I hadn't been so scared about Bitsie—and she'd ought to put the soap where Bitsie couldn't reach it."

"But, son, Mrs. Brown has done so much for us, and it makes me feel so bad to think you'd talk that way."

"I'm sorry, honest, Mom. I won't do it any more. I'll go get a lot of water in, wood, too. You do think little Bitsie will be all right, don't you, nurse?"

"Of course she will," Mary answered, her voice filled with the confidence she did not feel. "Of course she will, and you'll be a good boy and help your mother get well fast. I know you will."

After she had finished all the tasks she had set, Mary started to gather up her things to go home. Five blocks to the car stop. An hour on the car with two transfers. Three blocks to walk at the other end. Then bed! She'd get a bottle of milk at the corner store if it was still open, and some rolls. She couldn't fix supper or go to a lunchroom. Too tired.

"Dad's coming!" the boy announced.

Mary's first impulse was to go out the front door; avoid listening in on the family trouble that was threatening. Her second impulse was to go to the kitchen and see him before he came on in. She followed the second when she saw the appealing look in the mother's eyes.

"Good evening, Mr. James," she said. "I'm glad you got home before I left."

"Good evening, nurse. Here late, ain't you? Anything wrong?"

"Dad—Daddy—" the boy took his father's hand. "Daddy—I—I didn't watch little Bitsie close enough—and she got some soap—you know how she eats things,—and—and—"

"Bitsie sick?" the father exclaimed, sharply. "Is she sick?"

"Yes," Mary answered, gently. "Little Bitsie was quite sick when I came. We called a doctor, and he thought it would be lots better to take her to the hospital so she could have every possible care. We thought you would want her to go."

"Hospital!" he exclaimed. "I hate hospitals. My mother died in one. Folks are always dying there."

"True," Mary answered. "People do die in hospitals—but it's most often because they didn't go soon enough. That's why we didn't wait till you got home." The big man's rough face worked in agony. At last—

"Yes, that's what the doctor said when we took Ma there. 'Too late.' Which hospital did my Bitsie go to, City or Children's?"

"City. If they get the soap all out right away, the doctor thought she could come home in two or three days."

"Dad—Dad—Bitsie won't die, will she?" the boy pleaded.

"No. Ssh, son. We mustn't worry your mother. How is she, nurse? And the new one?"

Good thing feet get numb after they hurt long enough. Good thing you get over wanting supper when you've waited about so long. Good thing cars aren't crowded after seven. Might have to wait quite a while on the corner—they only came every half hour this time of day. Still, it wasn't so hot now; the ride in would be cool. Mary was frightfully tired. But as she watched the husband stroking the worried mother's forehead, as she saw the boy stooping over his new brother's basket—

Oh well, what did her own weariness matter? It was all in a day's work.



Health Hazards of Caisson Workers

By ALICE FOSTER IRBY

An interesting description of the use of compressed air in subaqueous tunneling and the control of associated health hazards

THE DEVELOPMENT of work in compressed air forms one of the most fascinating chapters of modern industrial development. The importance of the work which may be done with the aid of compressed air is great because the intercommunication of centers of business depends upon it. Compressed air is used in subaqueous tunneling, bridge-building, shaft-sinking, harbor-building, repair and salvaging of ships, and diving for pearls and coral. With the increased concentration of the population into small areas, work under compressed air is becoming a necessity in the construction of buildings and of all the avenues of communication between areas separated by water. It seems pertinent, therefore, that the public in general, and industrial nurses in particular, be informed in regard to this type of work, the resulting hazards, and the measures taken by the state for their prevention.

WHAT IS A CAISSON?

The pneumatic caisson was patented in 1830 by Admiral Lord Cochrane of the British Navy.* This caisson, with some improvements, is the model for the pneumatic caisson used in building tunnels today. A pneumatic or compressed-air caisson is an airtight chamber, open at the bottom, which rests on the river bed or under it. This chamber is filled at the top with compressed-air locks and valves which permit the entrance of air, men, and materials.

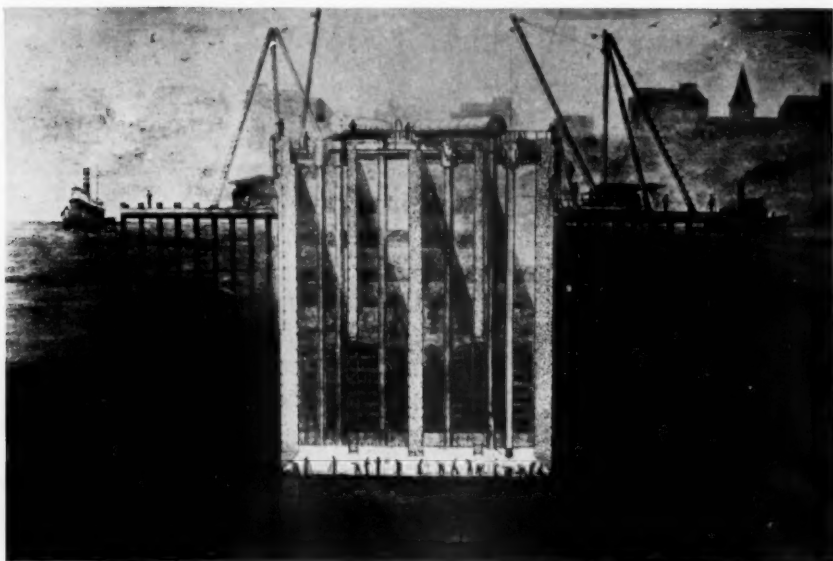
The process of entering a caisson, or "locking in," is as follows: With the door leading to the compressed-air space closed, the workers enter the air lock. The outer door to the air lock is then closed, and compressed air is admitted through a valve until the pressure in the lock is equal to that in the working chamber. The caisson door is then opened and the worker enters. In leaving a caisson, or "locking out," this process is reversed.

In the construction of the second tube of the Lincoln Tunnel under the Hudson River connecting midtown New York with Weehawken, New Jersey, pneumatic caissons of this type were used. The construction of the tunnel proceeded horizontally through the silt and clay under the river. This tunnel is constructed of circular sections of iron bolted together, and construction began from both shores simultaneously, meeting in midstream.

A shield, which is a device for use in horizontal tunneling, was patented by D. C. Haskins in 1874.** This device, which is provided with a cutting edge, is forced ahead by hydraulic jacks. The shield has compartments formed of overlapping screens which allow the workers to get through to the face of the tunnel and hew out the soil. It is at this shield that the excavating work in the tunnel takes place. When the soil has been sufficiently removed, the shield is pushed on a bit. A fresh segment of iron tunnel is built into place behind the shield, and reinforced with concrete. Thus the

*Hill, Leonard. *Caisson Disease*. Edward Arnold, London, 1912. Page 32.

***Ibid.* Page 35.



Courtesy of The Port of New York Authority

Working in the caisson; sandhogs sink a shaft in the river

work proceeds. The air pressure in the tunnel varies, depending upon the depth of the water overhead.

Caisson workers are exposed to the ordinary hazards of construction; the possible contamination of the air in the working space from poisonous gases; and the possibilities of "blow-outs." A blow-out is caused if the air in the caisson becomes greater than the water pressure outside, with the result that air is blown out through the water, and water rushes into the caisson. But the greater part of the danger in working in compressed air lies in hasty decompression and excessive length of working period, for these are the primary conditions making possible the development of caisson disease, or compressed air illness.

CAISSON DISEASE

Compressed air illness has been defined by Dr. Edward Levy, medical director of The Port of New York Authority, as follows: "Caisson disease, compressed-air illness, or, more properly speaking, air embolism, is a condition

caused by too rapid decompression after exposure to higher pressures for a period of time. It is characterized anatomically by the presence of free nitrogen in the tissues and body fluids, and clinically by one or a combination of the following symptoms: localized pain, vertigo, prostration, or symptoms referable to the central nervous system."*

Let us consider just how nitrogen is absorbed from the air and given to the body tissues. When a gas is brought into contact with a liquid, the liquid takes up the gas in solution—the amount depending mostly on the pressure of the gas. Thus, the blood in the lungs, coming in contact with the air breathed, takes up the gas from the air in solution. The amount of this gas taken up by the blood increases in proportion to the pressure of the gas. We need only concern ourselves with the increased nitrogen in the air, since the superfluous

*Levy, Edward. Compressed Air Illness and Its Engineering Importance with a Report of Cases at the East River Tunnels. Technical Paper No. 285, Government Printing Office, Washington, D.C., 1922.

oxygen, unless present in extreme amounts, is used up by the body tissues. The blood stream, having become saturated with nitrogen in the lungs, delivers this nitrogen to the tissues as it circulates through the body. The blood then returns to the lungs, where it again becomes saturated with nitrogen. This process continues until the body itself is saturated. Assuming that the blood is about five percent* of the body weight, and that a complete round of circulation is estimated to take but one minute, it would seem that twenty complete rounds of circulation would be sufficient for the body tissues to become saturated with nitrogen. However, there are other factors to be considered, chief of which is the presence of fat in the body. Fat takes up five times as much nitrogen as other tissues, and there is an average of fifteen percent fat** in the body. Then, too, the circulation in fat is poor, so there is not a complete change of blood every minute.

In decompression, the action that takes place is the reverse of the process explained above. The supersaturated tissues give off nitrogen to the blood, and the blood is desaturated by going through the lungs. As the blood again becomes saturated with nitrogen from the tissues, it again becomes desaturated in the lungs, and this process continues until equilibrium with the normal atmosphere is established. If the decompression takes place too rapidly and the nitrogen is not carried from the tissues to the lungs, gas bubbles form in the body fluids and tissues. This formation of gas bubbles is, according to accepted theory, the cause of caisson disease.

In entering compressed air there is a sensation of pressure in the ear which may become extremely painful, because the pressure on the two sides of the ear drum has not been equalized. Pain is

also felt in other bony cavities such as the frontal sinuses and maxillary antrum, for the same reason. A sensation of warmth is experienced, due to the fact that air, when compressed, becomes hot. In decompressing, the workers sometimes come out of an air lock pale, wet, and chilled by the moist, supersaturated air. Under usual working conditions there is no serious effect on the pulse rate, blood pressure, or circulation. The voice becomes nasal in quality, and the frequency of the respirations may diminish. The reason that caisson disease is commonly referred to as "bends" is due to the position that the affected person assumes when stricken.

PREVENTION

Although caisson disease is very largely preventable, occasional cases do occur. There is no such thing as immunity to this disease. And since the susceptibility of the individual varies, it is important that there be a careful selection of workers. Decompression chambers should be placed under the management of competent men, and a competent medical supervisor should be in charge of the personnel.

The education of all workers is necessary, in order to teach them the need for slow decompression and prompt treatment by recompression; the importance of exercising during decompression; the dangers of overindulgence and over-fatigue; and the need for keeping generally fit. Since most cases of compressed-air illness occur during the first hour after decompression, the workers should remain about the premises for at least thirty minutes to one hour so as to be able to secure immediate treatment if symptoms develop. The law in most states requires that caisson workers wear identification badges stating where they are employed and the location of the nearest medical lock, so that in case they are stricken on the street they will be immediately returned to the place

*Hill, Leonard. Caisson Disease. Edward Arnold, London, 1912. Page 198.

***Ibid.* Page 171.

equipped to give them proper treatment.

TREATMENT

Since caisson disease occurs from too rapid decompression, the treatment is recompression, and then very slow decompression. When the patient is treated by recompression, he is placed in the medical lock and the pressure therein is raised to equal the pressure in the lock in which he has just been working. Then the pressure is dropped slowly to just half. From that time on, decompression should continue very, very slowly.

If some of the nitrogen bubbles released during decompression enter the spinal cord, paralysis results. If recompression for this condition proves unsuccessful, the only treatment that can be given the patient is good nursing care. In paralysis, powers of elimination are lost; acute decubitus follows; infection sets in; and exhaustion and death usually follow. Other nursing measures which are helpful in alleviating the discomforts of caisson disease are friction, massage, and hot baths. For severe pain, morphine sulphate is sometimes given.

REGULATIONS

The State of New York considers the hazards of working in compressed air of such importance to labor that its Department of Labor issues rules relating to work in this field. The rules cover hours of labor, pressure shifts, intervals of work for each twenty-four-hour period, decompression, pressure gauges, lighting, exhaust valves, fire prevention, communication, wash rooms and rest rooms, sanitation and ventilation, and medical attendance and regulations. Of these rules, several are outstanding.

The rule on pressure shifts states that no person may be subjected to pressure exceeding fifty pounds, and that the working time in any twenty-four-hour period shall be divided into two shifts under compressed air, with an interval in

the open air. The following table showing the length of shifts with the periods of rest in the various pressures is interesting:

Pounds of pressure	Hours of work
0-18	8 hours, $\frac{1}{2}$ hour rest interval
18-26	2 shifts of 3 hours each, and a 1-hour rest interval
26-33	2 shifts of 2 hours each, and a 4-hour rest interval
33-38	2 shifts of $1\frac{1}{2}$ hours each, and a 5-hour rest interval
38-43	2 shifts of 1 hour each, and a 6-hour rest interval
43-48	2 shifts of $\frac{3}{4}$ hour each, and a $5\frac{1}{2}$ -hour rest interval
48-50	2 shifts of $\frac{1}{2}$ hour each, and a 7-hour rest interval

Under the rules for decompression, no person may be permitted to return to normal air except after decompression in the intermediate lock. The decompression rates are to be posted in each man-lock. Great importance is given to the condition of the pressure gauges, their operator, and the hours he spends on duty.

For the comfort of workers, the state law requires that suitable washrooms, lockers, and barracks be provided. The temperature of the dressing rooms is to be at least 70 degrees Fahrenheit at all times. Hot coffee with sugar is to be available to the men coming off shifts and during their rest periods. Dr. Edward Levy of The Port of New York Authority advises the use of hot bouillon, which is more digestible and more nourishing than coffee, but the workers insist on having coffee. Some of them drink large amounts, for they have a superstition that coffee will prevent compressed air illness.

MEDICAL SUPERVISION

The rules in regard to medical attendance and regulations are important. No person is permitted to work in compressed air unless he has had a physical examination by a competent physician. If the worker has been absent for ten or more consecutive days, he is re-examined

before returning to work. No worker who is addicted to the use of alcohol may work in compressed air. No new employee may work in a pressure of over seventeen pounds without having first been examined by a physician in the medical lock, and then he may work only a half day at a time until he is re-examined and found fit for a full day's work. Any person continuously employed in compressed air must also be re-examined. The law requires that the physician keep adequate records of the physical examinations on the uniform examination blanks. These records are to be accessible at all times so they may be inspected by the Industrial Commission.

The rules governing the medical lock are of particular interest. When the maximum pressure is more than seventeen pounds, or when fifty or more men are employed, a medical lock is to be maintained. This lock is to be at least five feet in height, and divided into two compartments. Each door is to be provided with a bull's-eye and fitted with an air valve so arranged as to be operated from within or without. It must

also contain a gauge, a telephone, and a cot, and must be properly heated, lighted, and ventilated at all times. This lock is under the control of the physician in charge. Near at hand there is to be a first-aid room containing a bathtub and all medical and surgical appliances necessary for first-aid work. The identification badges furnished the workers contain information stating that the wearer is a compressed-air worker, giving the location of the nearest medical lock, and requesting that if the worker is found ill, he is to be taken to the medical lock and not to a hospital.

Compressed air will continue to play an important part in the construction of subaqueous tunnels, the building of bridges and harbors, the sinking of shafts, and the work of the mercantile marine departments as well as that of pearl and coral fisheries. As long as these industries continue, work in compressed air will present industrial hazards. However, this work, which has heretofore been considered extremely dangerous, can be made safe by exact methods of scientific investigation and control.

REFERENCES

- Boycott, George W. M. *Caissons. Compressed Air and Diving.* Van Nostrand Company, New York, 1909.
- Bureau of Labor Statistics. *Occupational Hazards.* Bulletin No. 582, Government Printing Office, Washington, D. C., 1933.
- Erdman, S. "Acute Effects of Caisson Disease." *Transactions of the Fifteenth International Congress of Hygiene and Demography*, Vol. 3, 1913.
- Haldane, J. S., and Priestly, J. G. *Respiration.* Yale University Press, New Haven, 1935.
- Hill, Leonard. *Caisson Disease.* Edward Arnold, London, 1912. Also published by Longmans, Green and Company, New York.
- Industrial Commission of New York State Department of Labor. *Industrial Code.* Bulletin No. 22-25, New York State Department of Labor, Albany, 1922.
- International Labour Office. *Compressed Air Work in Occupation and Health.* 734 Jackson Place, Washington, D.C.
- Levy, Edward. *Compressed Air Illness and Its Engineering Importance with a Report of Cases at the East River Tunnels.* Technical Paper No. 285, Government Printing Office, Washington, D.C., 1922.
- Ryan, L. M. *Compressed Air Illness in Caisson Work.* Annual Labor Legislative Review, New York, Vol. 2, 1912.
- Schereschewsky, Joseph W. "Morbid Conditions Due to Changes in Barometric Pressure." *Tice Practice of Medicine*, Vol. 6. W. F. Prior Company, Hagerstown, Md., 1932.
- Shaw, L. A. "Physiological Effects of High Pressures." *Journal of Industrial Hygiene and Toxicology*, October 1936.
- Shilling, C. W., Hawkins, J. A., Polak, I. B., and Hansen, R. A. "Caisson Disease and Its Relation to Tissue Saturation with Nitrogen." *United States Naval Medical Bulletin*, October 1935.
- Stuart, Arthur A. "Burrowing Under a River." *Popular Science*, March 1937.

Immunization in a Rural County

By HAZEL HUTCHESON, R.N.

**An interesting account of the development
of an immunization program in a rural area**

IN CASS COUNTY, North Dakota, people understand immunization. The natural result is that they desire immunization. A certain percentage of the twenty thousand residents have gone to their physicians and so are immune to smallpox and to diphtheria. However, the county is 1764 square miles in area; and although six doctors reside at points about equidistant from each other, numerous obstacles must be overcome by any mother having 25 miles between her children and her physician. Immunization clinics were the solution to this problem.

At the period when the immunizations were started four years ago, free biologicals were not available. Prices in drug stores were forbidding, even when reduced. Through a representative of one of the leading drug houses, biologicals were obtained at a very low cost. A local drug store was paid by the drug house for handling them.

Next, the project was laid before the County Advisory Health Council. In this Council are the rural doctors, many volunteer helpers, and some legal talent. Details were carefully worked out to assure satisfaction on the part of all concerned. The mechanics of the plan were as follows:

When the Council had decided such matters as the proper fee for the doctor, and the financing of the cost of biologicals for the indigent, the nurse's office sent out questionnaires through the 133 schools to all parents having children in school. In this county there are some five thousand school children. The questionnaires, distributed and later collected

by the teachers, told how many children and adults to expect. The teachers were also asked to find and report families with children who were not in school.

When these data arrived, the nurse's office sorted it out by townships. Then each township assessor was sent the names of the families in his territory who were coming to one of our clinics, and the total cost of the immunizations for each family—at our established rate of 55 cents for each vaccination against smallpox, and 65 cents for protection against diphtheria. The assessors were asked to designate those families who in the light of the information which they had were really unable to pay these amounts. The chairman of the nursing committee for each clinic was informed regarding the number of doses of vaccine and of toxoid which would be needed for the indigent children at her clinic. The physicians had agreed to give their services free to these children.

This plan was followed because in a small rural community the assessors know the financial status of families who are their neighbors. In no instance was their decision questioned; and the families seemed to be entirely satisfied with the plan.

Meanwhile, nursing committees were busy. Each of the eighteen villages wanting the clinics had a group of volunteer helpers. These helpers made arrangements with the doctors regarding dates and rooms, and prepared to solicit any needed funds for the clinics. As soon as the nurse's office received answers from the assessors, the information was arranged according to clinics—each

family having stated which clinic it preferred to attend.

Of the 55 cents or 65 cents charged as fees for each immunization, 50 cents went for the doctor's fee; each dose of vaccine cost 5 cents, and each cubic centimeter of toxoid a little less than 15 cents.

The local clinic chairman had to find funds to cover the cost of biologicals for the indigent children coming to her clinic. This money was solicited from local village organizations such as the parent-teacher association, community club, lodges, and women's organizations. All funds for the cost of biologicals were sent through the nurse's office to the drug house.

When all was ready, the nurse sent through the schools an appointment for each family. This slip gave the place, the doctor, the hour they would be expected at the clinic, and the cost of each dose. Those who were unable to pay were welcomed just as much as the others.

CLINIC PROCEDURE

The clinic day arrived. The nurse came with first-class hypodermic needles, syringes, disinfectant solutions, applicators, sponges, biologicals, and record equipment. The volunteer helpers were given their instructions. Two volunteers were responsible for registration. The family name, and the number of points of vaccine and cubic centimeters of toxoid desired were placed in a book, and on a bill card which was numbered. The registrars also made out a regulation state immunization card for each patient. These helpers then gave the family its bill card showing how much it owed the clinic. The family took this card to one of the treasurers, also a volunteer, who made a duplicate record in her book, received the money, and receipted the bill card. The card was then passed to the doorkeeper.

The helper at the door kept in touch

with the situation in the doctor's office. As each family left, she sent in the next family in the order of the numbers on the bill cards, together with the state immunization cards telling the nurse how much vaccine and toxoid to prepare for the physician. Meanwhile, in the outer room, other women assisted the mothers in baring the arms. They were instructed to undress the right arm for toxoid, and the left for vaccine.

The nurse sterilized needles for the doctor, and prepared the arms. Sometimes she had time to fill the hypodermic syringes for the doctor. In accordance with accepted technique, no dressings were used.

This machinery ran smoothly. The people came in a steady stream, rather than all at once. Most of the clinics were scheduled for three hours. In our largest place the clinic ran for two whole days. There we gave vaccine to 106 children of school age and to 35 of preschool age the first day, and toxoid to 106 of school age and 32 of preschool age. This included a total number of 187 children, representing 99 families.

The following year a number of infants came to clinics, which were held in November and December. The total number of children protected in the fall of 1935 was 1375. During the fall of 1936 the county was bordered by a smallpox epidemic on the north and west. There were only four cases in Cass County. These occurred in a family who consistently refused to be vaccinated even after its first case appeared. There is no compulsory vaccination law in the state.

The physicians were pleased with the program, which of course they helped to plan as members of the Advisory Health Council. They all seemed glad to participate and entirely satisfied with the fees charged.

Since these clinics we have learned that the single dose of alum precipitate toxoid did not give the protection we had

hoped for and subsequent plans for immunizations had to include three doses.

We still have immunization clinics. Now that our biologicals are available free from state headquarters, we do not

have to raise money for the indigent children. In fact we now use a simpler machinery. There are no questionnaires; no lists to the assessors. The whole procedure is very much easier.

WHAT THE EFFICIENT BOARD DOES AND DOES NOT DO

A RECENT analysis of an efficient school board in the *National Parent-teacher* brought out so many interesting points which were applicable to boards of directors of public health nursing organizations that the following excerpts have been made. It will be interesting to examine your board and see what it does and does not do.

THE SCHOOL BOARD DOES

1. It transacts its business in board meetings at a regular time and place.
2. It acts as a body or an authority of the board as a whole.
3. It employs the best superintendent, principal, or teacher it can get and dismisses him only for incompetence and similar causes.
4. After careful study of all the factors involved and upon advice of trained leadership it adopts rules and regulations to govern most of the important school situations.
5. A large portion of the board meeting is used to decide important questions of policy.
6. It sees to it that a carefully planned budget is made in advance and that other accepted business practices are instituted to care automatically and effectively for the purchase of services and supplies, as well as for most other problems of finance.
7. The superintendent or other person in charge of the schools nominates all employees and recommends their dismissals; the board formally approves in most cases.
8. Problems of salary, tenure, promo-

THE SCHOOL BOARD DOES NOT

1. It does not consider official matters any time, anywhere.
2. It does not meddle in school affairs as individuals.
3. It does not employ in its schools almost anyone who has the proper license who can be secured at a low salary or who is a special friend of a board member or of other influential citizens.
4. It does not "run the schools" itself or attempt to solve its various problems on the basis of personal interests.
5. It does not use its time in approving bills, studying the catalogues, or wrangling over the best way to teach long division.
6. It does not attempt to conduct the business of the schools without a budget or to buy supplies in small quantities or upon the recommendations of high-pressure salesmen. It does not authorize separately each purchase to be made or each bill to be paid.
7. It does not investigate applications, make appointments, or dismiss employees without the assistance of the school superintendent or principal.
8. It does not play favorites or leave

tions, leave, et cetera, are carefully studied and definite policies adopted.

9. It leaves the assignment of specific duties, the transfer and the supervision of employees, to the person administratively in charge of the school.

10. It supports the school head loyally in the performance of his duties. Disagreements on policy are taken up in board meeting and all the facts determined.

11. It requires adequate reports concerning business and financial matters, educational achievements, and the efficiency of employees.

12. It insists that all accounts be audited at regular intervals by certified accountants.

13. The board is careful to conform to the school laws fixed by the state.

14. The board makes every effort to determine the educational desires and needs of the people by holding hearings on important issues, inviting criticism, and the like.

15. The board keeps the public informed about its policies and makes frequent reports on school activities.

16. The school board is alert to better types of school organization and school administration. To serve the best interests of the people it will take steps to enlarge the district or to seek its own abandonment.

these matters to chance or personal interpretation.

9. The board, or its individual members, does not, as a rule, directly give instructions to the teachers and other employees of the schools.

10. It does not, out of board meetings, criticize or countermand the action of the school head. It does not undermine his effectiveness.

11. Few reports are required and the board pays little attention to the reports received.

12. It does not leave any doubt in the public mind concerning the honesty of school expenditures or the accuracy of school accounts.

13. It does not ignore legal provisions or frequently get into legal difficulties.

14. It does not assume to "know best" in all matters or to adopt policies arbitrarily, or even contrary to the wishes of the public.

15. It does not deal with school affairs as if they were secret or their own private concern.

16. It does not let tradition or self-interest obscure its vision. If greater efficiency and better educational opportunities for boys and girls demand it the school board will not hesitate to recommend a new and better administrative organization even if the result is its own dissolution.

—From "Why School Boards," by Walter H. Gaumnitz, *National Parent-teacher*, March 1939, p. 29.

THE AMERICAN JOURNAL OF NURSING FOR AUGUST

Disinfection in the Home.....	Martin Frobisher, Jr., Sc.D.
Abortion—Cause, Prevention, Treatment.....	Fred J. Taussig, M.D.
From Teepee to Tower—Hotel Dieu de Quebec, 1639-1939.....	Epsy Colling
Developing Our Nursing School Library.....	Goldie D. Harker, R.N.
A Full-course Life.....	Cecilia L. Schulz, R.N.
Care of Diabetic Patient After Discharge.....	Mary E. Tangney, R.N.
Palm Printing for Infant Identification.....	Louise E. Morgan, R.N., and Florence Pauls
Skin Disorders Commonly Seen.....	H. C. L. Lindsay, M.D.
Practical Suggestions for Obstetric and Pediatric Nurses.....	
The Oral Case Study.....	Aileen H. Tuttle, R.N.
The Night Supervisor.....	Halcie M. Boyer, R.N.
Public Health Nursing in the Curriculum.....	Elinor Lee Beebe, R.N.

Modern Baby

A RADIO SKIT

By MRS. J. MITCHELL WATSON*

ANNOUNCER: The Visiting Nurse Association presents this program in honor of the celebration of Mothers' Day, hoping that it may prove of help to those in our community who are interested in motherhood. And who is not, at this time, when our thoughts are turning to Mothers' Day and its significance? Perhaps the best way to tell our story is to take you with us into the home of Mrs. Kent, where the visiting nurse has just completed the bathing of the ten-day-old baby. Looking on with interest are a curious neighbor and a grandmother critical of ways new to her. Shall we listen? (*Fade*).

NURSE: There's your nice big boy, all clean and fresh, Mrs. Kent. Do you think you can give him his bath all by yourself tomorrow?

MRS. KENT: Yes, I think so. And I'm so glad to learn how to take care of him in just the right way. I'd be pretty scared if it wasn't for all the things you have taught me.

GRANDMOTHER: Humph! (*Sniffing*).

NURSE: I wish more mothers would let us help them. If they would come to us, as you did, as soon as you knew you were going to have a baby, so much trouble could be avoided.

NEIGHBOR: What do you mean, Mrs. Kent, did you bother going to the doctor in the first two or three months? For my three I never had a doctor until time for the baby to be born.

NURSE: You have three children?

NEIGHBOR: Well, no, I had three but only one lived. And I guess I was lucky to live myself.

GRANDMOTHER: The will of God! (*Shaking her head*).

NURSE: Mrs. Kent went to see her doctor just as soon as she knew she was going to have a baby, and he examined her and made tests of her urine and her blood. After this she saw him every month.

GRANDMOTHER: All this fuss about a baby!

MRS. KENT: The doctor said most of the complications and accidents that occur when women are pregnant could be prevented if every mother were under a doctor's care, and followed his advice, during the whole time before the baby was born.

NEIGHBOR: That must have cost money! I'm having a baby in the fall but I certainly couldn't afford to go to a doctor now, six months ahead of time.

NURSE: But, my dear, you can't afford not to, both for your own sake and your baby's. If you have lost two, you surely want to do everything in your power to give this baby the finest chance for life and health.

NEIGHBOR: Of course I do, but what will it cost?

*This radio skit was prepared for a Mothers' Day broadcast, by Mrs. Watson, member of the Committee on Maternal Welfare, Visiting Nurse Association, Detroit, Michigan, and was presented over WWJ, May 10, 1939.

NURSE: If you and your husband will go to your doctor now and talk this over with him, he will help you plan and will adjust the cost to the amount you can afford to pay. And not only this, he will advise you about using the visiting nurse service as Mrs. Kent did.

MRS. KENT: Yes, as this was my first baby, the nurse called on me about once a month, and explained about the proper diet, and how much exercise and rest I needed and what I should have for the baby's layette, and how to prepare the supplies and the room for the baby to be born at home.

NEIGHBOR: John's work has been so irregular that we can't afford a nurse when the baby is born let alone having one beforehand.

NURSE: Well, now that is just what the Visiting Nurse Association is for. If it is impossible for you to pay the regular rate for a nurse, we are able to supply nursing care at part of the cost, and even entirely free service, if your doctor feels it should be planned that way.

GRANDMOTHER: Fuss and feathers! I took care of your mother and you too! And you lived through it!

NEIGHBOR: I never had a nurse before; a neighbor or just my husband helped take care of me.

NURSE: That is not necessary. Here in Detroit we have good facilities for nursing and medical care. Almost every woman is attended by a physician when the baby is born, but many of them wait until after the sixth month before they see a doctor and this places both the patient and physician at a great disadvantage. Sometimes women never see a physician until the time of the baby's birth. Don't make that mistake!

NEIGHBOR: We lived back in the country when our first two were born and I managed just the way all the other farm women did. We were miles and miles from a doctor or even from the next farm. We were thankful if the doctor arrived before the baby was born.

NURSE: I know that's true. In 1936 nearly a quarter of a million women in remote communities did not have a physician's care when their babies were born. But that is gradually changing. Under the Social Security Act, grants have been made to the states to extend the maternal and child health work into rural districts, so that public health nursing can some time be available in every county as well as in the cities. That is one of the things that the Detroit Visiting Nurse Association does. It prepares nurses for rural service as well as work in the cities. This year the State Department of Health and the W. K. Kellogg Foundation sent four nurses here to be instructed and three of our own staff were transferred to county obstetric services.

GRANDMOTHER: Newfangled ideas! What was good enough for my mother is good enough for me.

NEIGHBOR: Do many women use the visiting nurse service?

NURSE: More every year, but even in Detroit the big majority of women who had babies born at home had no nurse to help the doctor. Many families do not know of this service and others hesitate to call on us because they cannot pay. And they are just the ones we want to help.

MRS. KENT: You know the Browns down the street, don't you? She had her baby last month and had a visiting nurse to take care of her.

NURSE: Yes, she was one of my best patients. Mr. Brown only works four hours a day but his wife is a good manager and when she found out about the visiting nurse service, she and her husband made their plans so that they were able to

pay for a nurse when the baby was born, and for the care afterwards on a part-cost basis. Mrs. Brown had her supplies for the delivery well organized, her house clean and neat, and her children well trained. Mary is 14, and she stayed home from school and took care of the house and the children as Mr. Brown couldn't stay home from work for they needed all the money he could earn. I'm glad they planned the way they did for things would have gone hard with her if she hadn't had a nurse.

GRANDMOTHER: Humph! (*muttering*).

NEIGHBOR: They have a beautiful baby too. Do you have many cases where things are so well planned?

NURSE: Not so many but there was one family on relief where the husband and wife did a really grand job of preparing the room for delivery. Everything was spotless. The curtains were freshly washed and ironed and even the stovepipes taken down and cleaned so that the fire would burn well and I could do the necessary sterilizing. The mother had ironed her husband's shirts before daylight just in case he got a job that day. Three of the children were in school and the three youngest were playing in the vacant store at the front of the house which they called the playroom. I looked in at them and the only furniture in the room was an old stove, an ironing board, a washing machine, some battered blocks, and newspaper airplanes. When they came in to see the new baby, the tiniest girl said, "Now we have got our doll for Christmas—a real live baby. All we want besides is a pair of red mittens for each of us!"

NEIGHBOR: Do all your cases turn out so happily?

NURSE: No, not every one, of course. I had one patient whose baby was stillborn, but the mother's life was saved just because she was persuaded to see her doctor immediately. She told me afterwards that the doctor said she would have had convulsions if she waited even 12 hours.

NEIGHBOR: Well, you've really convinced me if you haven't convinced Grandmother. I will talk to John tonight and see what plans we can make for our baby.

ANNOUNCER: And so we leave our little group with the grandmother not quite so resentful of newfangled ways and the neighbor well on the way to finding the help she so obviously needs. We have presented this playlet at this time, when the thoughts of our people are centered on mothers and motherhood and in the hope of bringing to your attention the great need for better care for the mothers of the next generation. To sum it up, the standard we have set for adequate maternity service is (1) medical and nursing supervision, care, and instruction from the very beginning of pregnancy (2) clean delivery under the supervision of a physician skilled in obstetrics, and a graduate nurse (3) medical and nursing supervision, care, and instruction throughout the period of pregnancy (4) examination and any treatment that is necessary, during pregnancy and (5) continued medical supervision of the baby. If we could know that every mother was assured of this essential care, then indeed we could feel that we were conserving the nation's greatest asset, which is the health of its mothers.

NOTE: The last paragraph was not broadcast.

**SCHOOLS APPROVED FOR TRAINING PHYSICAL THERAPY TECHNICIANS BY THE
COUNCIL ON MEDICAL EDUCATION AND HOSPITALS***

School	Entrance Requirement	Length of course	Student Capacity	Tuition	Certificate, Diploma, Degree
California Hospital, Los Angeles	(a) R.N. (b) Grad. phys. ed.	18 mos.	6	\$200	Certificate
Children's Hospital, Los Angeles	(a) R.N. (b) Grad. phys. ed.	15 mos.	12	\$150	Diploma
Stanford University Hospital, San Francisco	(a) R.N. (b) Grad. phys. ed.	12 mos.	12	\$215	Certificate
Walter Reed General Hospital, Washington, D. C.	Grad. phys. ed.	12 mos.	10	None	Certificate
Northwestern University Medical School, Chicago	(a) R.N. (b) Grad. phys. ed. (c) 3 yrs. coll.	9 mos.	16	\$200	Certificate
Bouv�-Boston School of Physical Education, Boston	High sch. grad.	3 and 4 yrs.	10	\$400 yr.	Diploma or B.S.
Harvard Medical School, Course 445, Boston	(a) R.N. (b) Grad. phys. ed. (c) Coll. grad.	9 mos.	18	\$150	Certificate
Boston University, Sargent College of Physical Education, Cambridge, Mass.	High sch. grad.	4 yrs.	12	\$350 yr.	B.S.
Posse School, Kendal Green, Mass.	High sch. grad.	3 and 4 yrs.	9	\$400 yr.	Diploma or B.S.
Mayo Clinic, Rochester, Minn.	(a) R.N. (b) Grad. phys. ed. (c) 2 yrs. coll.	12 mos.	15	None	Certificate
St. Louis University School of Nursing, St. Louis	High sch. grad.	4 yrs.	2	Univ. fees	B.S.
University of Buffalo, Buffalo	R.N.	18 mos.	8	Univ. fees	B.S.
New York Society for the Relief of the Ruptured and Crippled, New York City	(a) R.N. (b) Grad. phys. ed.	9 mos.	20	\$300	Diploma
D. T. Watson School of Physiotherapy (affiliated with University of Pittsburgh School of Medicine), Leetsdale, Pa.	(a) Grad. phys. ed. (b) 2 yrs. premed.	22 mos.	8	None	Diploma or B.S.
College of William and Mary, Richmond, Va.	(a) R.N. (b) Grad. phys. ed. (c) 3 yrs. coll.	9 and 12 mos.	10	Coll. fees	Certificate
University of Wisconsin, Madison	(a) R.N. (b) Grad. phys. ed.	9-12 mos.	20	Univ. fees	Certificate

*"Schools for Physical Therapy Technicians," *The Physiotherapy Review*, May-June 1939, pp. 156-157.

Home Sweet Home

By GERTRUDE KOTILA, R.N.

A staff nurse in the Cleveland Visiting Nurse Association gives her impressions of a government housing project and its effect on the lives of her patients

MISS BROWN got off a street car near one of the new government housing projects, and bag in hand, walked up the clean, wide sidewalk with newly planted, hopeful-looking trees on either side. She looked with satisfaction at the attractively arranged buildings of sound construction, modern and fire-resistant. She glanced with pleasure at the two playgrounds inclosed by green hedges, and arranged so as to minimize traffic hazards.

The particular housing project which she was entering consists of nineteen three-story buildings comprising two, three, four, and five-room apartments. Each room has outside exposure and cross ventilation is possible in each unit. Eighty garages and eight stores are included within the project.

There are no through streets in the project. The two playgrounds have slides, swings, teeters, sand boxes, and bars. In the evening, floodlights play over the grounds, preventing accidents and mischief. It is amazing to see the number of adults out on the playground with their children.

Miss Brown sighed, thinking of the tenements within a stone's throw of this block, where one walks down an alley strewn with rubbish, refuse, and garbage; encounters groups of unkempt children and half-starved-looking dogs; and climbs a dark, shaking stairway to a suite of rooms facing a dark, cheerless wall. Adjoining is a dirty, cluttered, noisy store with loafers in front and tenants in the rear.

It is not difficult to see that the housing project is a civic asset, in contrast to the social liability which existed before in this area where the sum of two million dollars a year was spent for police and fire protection, disease control, and correction of delinquency.

These housing projects in Cleveland, Ohio, are a part of the national program to provide better living conditions at lower cost to the thousands of hard-working, self-respecting families who need better homes. The Visiting Nurse Association is fortunate in having three of the projects within its nursing districts. Strange to say, the things a nurse most appreciates here are the actual necessities of life which we too often take for granted—such things as heat, light, ventilation, and bathroom facilities.

SO MUCH DIFFERENCE!

Miss Brown entered one of the buildings where Mrs. Smith, a new mother, eagerly awaited her arrival. The nurse commented on the attractive, cheerful rooms. "But nurse, it didn't look like this when we lived with our 'in-laws'! The clean walls and floors and bright windows seem to make so much difference to our furniture. This is the first time we could afford to live alone, so we are enjoying showing off our few belongings." In no time at all the mother and baby were comfortably cared for because of the convenient hot and cold water, bathroom facilities, heat, and light.

In contrast, the nurse recalled a recent

early morning visit in the immediate neighborhood where she had to shake up the old, rickety coal stove, search for fuel, and scour a pan for the mother's and baby's bath. After valuable time had been wasted waiting for water to heat, it was necessary to bathe the baby within a few feet of the stove because the heat would not radiate. Then she had bathed the mother in a cold, dark bedroom—dark because raising the shade seemed to permit too much of a window draught, and the electric light bulb was being used in the kitchen. Finally after an interminable time the visit was finished and she had left the home with a soot-speckled face and red, chapped hands.

The next call was made on an antepartum patient in the new project. Miss Brown commented on the lovely new furniture in the suite. "Well, you see the difference in our rent alone has permitted us to get a few of the nice things we've wanted for so long. One room used to cost us as much rent as these three rooms and bath."

"OUR OWN BATHROOM"

Mrs. Jones, a chronically ill, elderly patient, was next on the day's schedule. She and her husband had moved into one of the little apartments. "You can't imagine what a thrill it is to have our own bathroom. We lived in rooming houses before and had to share the bath often with fourteen or fifteen other tenants." The old couple take a childish delight in their new little place and want the nurse to feel their pleasure.

Mrs. White in the next house proudly showed the nurse how she could get from her room to the bathroom with her wheel chair; how every window in the suite had a pleasant view for her; and how easily the windows could be adjusted for ventilation. Previously she had had to depend on air from cracks in the floor, walls, and windowpanes; in some places the windows had not been opened for

many years because it was physically impossible to raise them.

The visiting nurse association's chronically ill patients in the project include arthritic, cardiac, and orthopedic patients. A few are recipients of pensions for the aged or blind, and a small number are dependent on their children. In some cases the nurse gives daily, bi-weekly, or weekly care; in others she supervises the care given by the family.

Perhaps it is significant that the association has had no pneumonia patients in the project. At any rate it seems certain that with overcrowding eliminated, and with facilities for adequate care possible, some of the hazards of communicable disease are eliminated.

Little Mary O'Grady, a tonsillitis patient, was next on the nurse's list. Mrs. O'Grady told Miss Brown how she was learning good habits in the project. She said that having a definite half day for her laundry work helped her to plan her time more efficiently and necessitated getting the work done, whereas previously she had put it off, allowing soiled clothing to accumulate. Now her work was finished in much less time, and she planned to take more part in the children's activities and to have a little recreation for herself.

The laundries are provided with tubs, drying rooms, gas plates, and ironing boards. Storage space is provided for electric washers, trunks, baby carriages, and bicycles. In view of the fact that thirty-five percent of all accidents occur in the home and forty-five percent of all injuries from falls occur in the home, it seems certain that sound construction and good planning will eliminate some of these hazards. The organization has had no patients with accidents in the project during the past year.

So far, the nurses have not heard any complaints from patients in regard to the project. Daily they make such comments as: "I hope the government will build more like this." "I hope Mr. Smith

will be able to pay his rent so he won't have to move." That is a common attitude among the tenants; those who are enjoying the privilege hope that others having unemployment difficulties will not have to move.

Many mothers call attention to the difference in their children's color, appetite, and disposition since they have been living under favorable conditions. Also, the nurses notice the change in the mothers when work is made easier and more pleasant; when children can be allowed on a safe playground.

Many people have wondered whether some of the tenants would fail to appreciate their new homes and abuse their privileges. The manager of the project states that ninety-five percent have responded favorably in spite of the fact that out of twenty-five hundred individuals a bad apple is certain to turn up now and then. The principal of the school nearest the project says that there is a marked change noticeable already in the type of problems presented in the school. It appears also that the quality of the neighborhood stores, bakeries, and beauty shops has changed for the better. Many of the dilapidated buildings on neighboring corners and streets have acquired new coats of paint.

Thus far the tenants have been encouraged to avail themselves of community resources in the immediate neighborhood such as libraries, clubs, social rooms, swimming pools, and organizations such as the Young Women's Christian Association and Young Men's Christian Association. The three club

rooms in the project, which are quite small, are used by Boy Scouts, Campfire Girls, and women's bridge and social clubs. The clubs have been organized by groups in the project itself without sponsorship by the management. Everything has been done to prevent the tenants from feeling isolated from the community.

The Visiting Nurse Association has had an increase in the number of full-pay, part-pay, and insurance patients in this neighborhood. Many tenants still do not know of the services available on their insurance policies, but their neighbors are teaching them rapidly.

Recently Jane, a little girl in the project, noticed the nurse across the street. The school on the corner had just been dismissed, and traffic was quite heavy. With much screaming and waving of arms, the child managed to attract the nurse's attention and in a very loud voice called, "Nurse, my mother thinks she'll put in an order for a little red-headed baby brother!" "That's wonderful, I'll be seeing you," the nurse had to call back, recalling that she had seen Jane while making an antepartum visit to a friend of the child's family in the project.

We believe that this demonstration by the Federal Government in providing adequate housing for the low income groups will be a step in attaining our public health goal of the future, when the emphasis will turn from disease prevention to what Dr. Frank G. Boudreau describes as "the promotion of abounding health."



NOTES *from the* NATIONAL ORGANIZATION FOR PUBLIC HEALTH NURSING

ANNA GRING REPLACES ELLA McNEIL



Anna C. Gring

The N.O.P.H.N. announces with regret that Ella E. McNeil who has been an assistant director on our staff since 1935 is resigning in September. At the present writing Miss McNeil's plans are not complete, but all who have come to

know her through the N.O.P.H.N. will want to join our staff in hoping that her next position will also take her into the field so that her helpful and encouraging visits may be continued. Miss McNeil has been unusually successful in making studies of community nursing services and the N.O.P.H.N. will miss her greatly in this as well as in the school nursing field. Our best wishes go with her in whatever work she undertakes.

The appointment of Anna C. Gring as assistant director in Miss McNeil's place will become effective September 11. Miss Gring comes to us from the American Red Cross where she has served for the last five years as a nursing field representative. Miss Gring is a graduate of the Homeopathic Hospital School of Nursing in Reading, Pennsylvania, and had her preparation for public health nursing at the Pennsylvania School of Social Work in Philadelphia and Teachers College, Columbia University. Her previous experience includes all types of public health nursing and also medical social work.

SUCH A HAPPY BIRTHDAY

The N.O.P.H.N.'s Silver Jubilee Birthday celebrated so extensively in 1937 must have made members birthday conscious! Naturally we expected greetings from far and near in the Jubilee year but to have them come in 1938 and again on June 12 of this year was indeed a pleasant surprise. The warmth and friendliness of this year's greetings made

it a real joy to read them. Our regret is that we cannot pass them along to all N.O.P.H.N. members to whom, after all, they really belong. To all of you who sent greetings on June 12 our heartiest thanks. We extend a special invitation to those who became members during our birthday month to visit us here at headquarters.

HONOR ROLL

Are you the ONE nurse who is keeping your agency off the Honor Roll?

If you're holding up the 100 percent enrollment of your staff won't you send your membership dues today and make your agency eligible.

IOWA—ILLINOIS—NEW YORK are in the lead now! But the numbers

change fast and different states may be out in front next week. To help yours make a good showing, be sure that you are enrolled in the N.O.P.H.N.

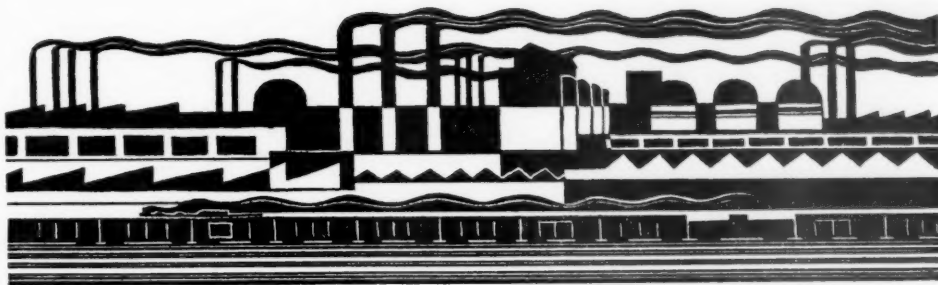
The September issue will list the names of all the agencies which have become Honor Roll members since the last list was published.

NUMBER OF HONOR ROLL AGENCIES IN EACH STATE—1939

Alabama	23	Nebraska	3
Arizona	4	Nevada	—
Arkansas	11	New Hampshire	13
California	23	New Jersey	29
Colorado	24	New Mexico	7
Connecticut	37	New York	48
Delaware	—	North Carolina	16
District of Columbia	3	North Dakota	5
Florida	18	Ohio	32
Georgia	3	Oklahoma	8
Idaho	3	Oregon	23
Illinois	50	Pennsylvania	23
Indiana	30	Rhode Island	33
Iowa	65	South Carolina	6
Kansas	17	South Dakota	3
Kentucky	10	Tennessee	18
Louisiana	10	Texas	33
Maine	13	Utah	3
Maryland	3	Vermont	3
Massachusetts	29	Virginia	7
Michigan	25	Washington	8
Minnesota	22	West Virginia	6
Mississippi	5	Wisconsin	17
Missouri	20	Wyoming	10
Montana	5	Hawaii	1

TO SUBSCRIBERS

When you change your mailing address be sure to notify PUBLIC HEALTH NURSING, 50 West 50 Street, New York, N. Y., allowing at least one month before the change is to take effect. With your new address please send us the old one. Copies that have been mailed to an old address will be forwarded by the Post Office if you will send forwarding postage to the Post Office.



GUARDING THE HEALTH OF AN INDUSTRY

Just as the factory unit is the hub in production and distribution, so this health unit is the central point for health supervision of the firm's departments and stores

TREMENDOUS opportunities for satisfying accomplishment are offered in an industrial health program which enables the nurse to work closely with the employees and with the personnel department, to apply the principles of public health nursing in conserving the health of employees, and to teach accident- and sickness-prevention. Such a program is made possible in the business of Fred Sanders Confectioners, Detroit, Michigan, through the progressive spirit and wholehearted coöperation of the firm's executive group.

This company makes and sells candy, baked goods, and ice cream, and maintains a fountain-lunch service. The structural setup consists of production taking place in a centralized factory, and distribution throughout the city in twenty stores. The personnel fluctuates between fifteen hundred and two thousand employees, depending on the seasonal business.

A unique feature of the work which indicates the scope of the nurse's activities, is the fact that the first-aid department and nurse's office are known as the health department, and the nurse is the health supervisor. Just as the factory unit is the hub in production and distribution, so this health department is the central point for health supervision

of all the firm's departments and stores of the company. Also, a tremendous advantage lies in the fact that the health program is administered directly under and in close alliance with the personnel department.

The success from the inception of the health program eight years ago may be ascribed largely to three factors: (1) the coöperation and interest of the heads of the firm (2) the progressive and intelligent guidance of the personnel director (3) the public health nursing preparation and experience of each of the three nurses who has held the position of health supervisor.

If it were possible to classify the functions of the nurse, they might be divided into five parts: (1) physical examinations, (2) first aid and emergency nursing, (3) personnel contacts, (4) education, and (5) record-keeping. However, the teaching and record-keeping are so interwoven with every phase of the work that it is difficult to discuss any one activity without presenting aspects of another.

Assisting with physical examinations is an important part of the work. These examinations are made by a physician who is paid by the firm and who comes in upon request.

In the pre-employment examinations and annual re-examinations, the state laws regarding industrial injury and occupational disease are kept in mind. Such information as previous illness and

operations, cardiac findings, physical handicaps, visual acuity, apparent hearing defects, and condition of the teeth and tonsils is recorded. The employment office takes into consideration the physician's recommendations before employing anyone in a job where he might prove to be an industrial hazard. A defect found on the yearly examination does not cause the employee's discharge, but it is followed up by a conference to see about securing remedial measures.

The state and city health department regulations regarding food handlers must also be kept in mind. Significant information regarding skin conditions and communicable diseases is recorded. This information is sent to the city health department on a form supplied by them, and enables the employee to get his food handler's permit if his application is approved.

The physical examination records are filed in the health supervisor's office. Various colored flags are used to mark the cards of all cases where serious defects are found or where special attention is needed—such as a worker with a positive Kahn reaction, a patient with arrested tuberculosis requiring re-examination every six months, or an employee with varicosities for which treatment is advised.

CARE OF INJURIES AND ILLNESS

Beside the physical examinations, which occur at planned intervals, the nurse carries on the first-aid and emergency nursing activities which occur in any industrial nursing program.

Employees with compensable injuries requiring a doctor's attention are sent to a physician designated by the insurance company. Standing orders for the treatment of cuts, burns, bruises, and slivers are given by this physician, and are posted in the first-aid box in each store and in the factory hospital. Standing orders for fainting, menstrual cramps, and intestinal upsets are given by the

doctor who conducts the physical examinations. A list is kept of all employees given first-aid treatment, whether in the stores or in the factory, with the ailments and the treatment given. These lists are sent to the nurse weekly.

An injury is always recorded on the employee's physical record card, in addition to the detailed report made out for the insurance company. One of the questions asked at the time of filling out this report is, "What could be done to prevent an accident of this type?" Getting the answer to this question is a teaching opportunity for nurse, employee, and employer.

Since all employees feel free to come to the nurse with complaints of illness, she has opportunities to show a personal interest in each of them; to see that the employee has good medical care by referring him to a private physician; to note the relation of the present illness to the previous conditions recorded on the physical record card; and to make a coöperative contact with the private doctor by asking for a report of his findings. There is danger of losing the confidence of the employee if the "See your own doctor" is too hastily and glibly advised without further effort to help the worker with his problem.

PERSONNEL DEPARTMENT COOPERATES

An absorbing and interesting part of the work is the alliance with the personnel department. The director of that department refers workers to the nurse when the personnel problem might be caused by a health factor. Therefore, the nurse reaches the employee in the capacity of health supervisor as well as that of first-aid administrator. This is an excellent opportunity for the practical application of mental hygiene.

Individual conferences are held with the employees regarding serious defects, frequent absences, pregnancies, personal hygiene, and work attitudes—the last to determine whether the poor attitude is

caused by home conditions, health problems, or personnel difficulties. These conferences are recorded as social case histories. Since the employee is usually referred to the nurse through the personnel department, a copy of the report of the conference and disposition of the case is sent to the personnel director.

Employees are referred, according to their needs, to private physicians, the local medical society, clinics, the local visiting nurse association, the legal aid, and other coöperative organizations of the community.

All employees who have been absent four days are reported immediately to the health supervisor by each store manager or department head, on a personnel service request card. Home calls are made on these employees and a brief notation as to the patient's condition is made on the bottom of the request card. This card is then returned to the manager or department head.

All employees who have been absent for four days or longer due to illness must have the permission of the health supervisor before returning to work. This provides an opportunity for her to work in coöperation with the family physician and prevent the practice of putting a person back on the job before he is able to work.

The home visits made to persons who have been injured, to those who have been operated upon, and to the four-day absentees are also written up as social case histories and filed.

Of great value in obtaining a yearly health picture of each employee are the weekly attendance record sheets sent by all departments and stores to the personnel department—even though these records come to the nurse three or four weeks after the absence occurs. A notation is made on the inner fold of the physical record of all the time which has been lost due to illness, regardless of the brevity of the time.

The educational part of the work is

intermingled with the rest and is carried on continuously during all the other activities. Accident prevention is always stressed. Safety bulletins are changed frequently. Each accident spurs the staff to further ideas for increased safety measures, and the situation is discussed with the employee and the department head.

Sickness prevention is stressed in city health department bulletins which are posted, and by other notices regarding colds, sunburn, hand-washing, and various topics of personal hygiene. Individual instruction is, of course, a prominent part in this educational program.

FIELD EXPERIENCE FOR STUDENTS

In addition to the nurse's duties as health supervisor, she has coöperated during the past year in an experiment which has no direct bearing on the firm's business. It is the hope of those sponsoring this project that it will contribute in some measure to the nursing profession.

The plan is one whereby nurses who are studying industrial nursing as a part of their university program of study in public health nursing may have 160 hours of field experience in the company's health department.

Although the executive group of the firm was at first doubtful about the advisability of bringing this activity inside the organization, it gave full coöperation and permitted the nurse to go ahead with the plan. Now, the management and the nurse feel that the venture is very stimulating and that it is not at all disrupting. The students are well accepted by the employees. It is believed, however, that the careful selection of the nurses sent for this field experience has been a great factor in its success and will continue to be important in the building up and maintaining of such a service.

ELEANOR J. WILLIAMSON



EDITED BY
ELLA E. McNEIL

OH, DOCTOR! MY FEET!

By Dudley J. Morton, M.D. 116 pp. D. Appleton-Century Company, New York, 1939. \$1.50.

In this little book about foot trouble, the author takes this "step-child of medicine" out of the unknown territory between the orthopedic surgeon and the commercial shoe man, and places it in the hands of the general practitioner.

The narrative style makes easy reading for the general public and will, no doubt, give new hope and sound advice to many foot sufferers.

Its real mission, nevertheless, should be to bring to the attention of the general practitioner the all important "foot conditions" which when neglected can cause many serious handicaps. It is, therefore, the hope that he will not fail to recognize his responsibilities and opportunities in this much neglected field.

EVA HALLGREN
New York, New York

AMERICAN MEDICINE MOBILIZES

By James Rorty. 358 pp. W. W. Norton and Company, Inc., New York, 1939. \$3.00.

This book is written in three sections and an appendix. The first section consists of a lively report of the National Health Conference, the second of an economic analysis of the American Medical Association, and the third is a review of the possibilities for improvement in the distribution and quality of medical care. The appendix includes the majority recommendations of the Committee on the Costs of Medical Care and other more recent documents bearing on the same subject. Mr. Rorty has presented a number of facts some of which are little known and he has been careful

to sort fact from fiction. As to the validity of his conclusions there will certainly be more than one opinion.

J. ROSSLYN EARP, M.D.
Albany, New York

MAN AND HIS HEALTH

A Guide to Medical and Public Health Exhibits at the New York World's Fair 1939, Together with Information on the Conservation of Health and the Preservation of Life.

Exposition Publications, Inc., New York, 1939.
97 pp. 50c.

For the visitor to the New York World's Fair here is an invaluable guide to the health exhibits and a very attractive concise record and description of them.

For one not attending the Fair this book makes most interesting reading and shows how art, design, skill, mechanical devices, and financial resources can portray man and his health.

At the conclusion of the Fair the American Museum of Health plans to move these exhibits to a permanent institution for visual health teaching in New York City.

E.K.D.

MAN AND HIS BODY

By Howard W. Haggard, M.D. 594 pp. Harper and Brothers, New York, 1938. \$4.

This is a good clearly written book for the layman and provides him with an accurate, understandable statement of the essential facts of physiology and hygiene. Brief consideration is given to some of the more common diseases and basic information is presented concerning the nature of the disease and the steps which may be taken to prevent it. Statements as to curative procedure are

limited and careful recommendations are made regarding the importance of proper medical care.

There are always difficulties in the arrangement of this type of book, and many facts are repeated in different places; but this is perhaps an advantage in a book to which the layman will refer for information on different topics. The illustrations consist of some 90 drawings, simple but of good educational value, and 10 full-page plates. The book may safely be recommended to the intelligent layman.

C. E. TURNER, Dr.P.H.
Cambridge, Massachusetts

SOCIAL AGENCY BOARDS AND HOW TO MAKE THEM EFFECTIVE

By Clarence King. 102 pp. Harper and Brothers, New York, 1938. \$1.25.

This author has done an invaluable service for the layman and the professional social worker. With the increasing importance of lay participation, increasing interrelationships in the social work field, and new challenges to professional skill, this is a timely analysis of the function of the board.

The professional executive will find here understanding guidance in his responsibility to his board, and in his working relationship to its president, executive committee, and other members. The board member himself will welcome especially this clear, sympathetic presentation of his role. Too often members are apathetic and inert because, to themselves, they seem thoroughly unimportant and a sense of inadequacy frequently discourages those who have a real contribution to make. On the other hand many have been alienated by a domineering president or overbearing executive.

Mr. King covers carefully and thoroughly the fields of private and public welfare and the relationship of board,

executive, and community. He approaches his problem from every angle, giving perspective to the whole question and new insight into board technique. The professional will welcome this clarifying of many difficult situations and the board member will find here new understanding of his function.

ELEANOR PRATT
New Orleans, Louisiana

THE ROLE OF THE SANATORIUM IN TUBERCULOSIS CONTROL

By Alton S. Pope, M.D. 11 pp. Reprinted from *The Milbank Memorial Fund Quarterly*, October 1938.

The history of the sanatorium movement in connection with other developments in tuberculosis programs is reviewed in a concise, interesting way. The author writes of sanatorium care as a means of separating an open case of tuberculosis from the family, of increasing the use of collapse therapy, and of the function of the sanatorium in teaching the patient about the disease. Dr. Pope recognizes that sanatorium work must be correlated with other parts of the program in a state or community and with local hospitals, boards of health, public health nurses, and social service agencies. The state management of the sanatorium is rather favored in this article.

The use of a ratio between the number of deaths in a population and the number of tuberculosis beds necessary is not recommended. The demand for sanatorium beds is rather an index of the adequacy of the tuberculosis program. It is recommended that tuberculosis wards be developed in general hospitals; and also that such work be associated with a central up-to-date sanatorium which would serve as a training school for resident physicians who could bring the essentials of the modern treatment of tuberculosis to the local hospitals and to the local physicians.

D.E.W.



- Indiana University at Bloomington, Ind., has joined the list of colleges and universities offering a program of study in public health nursing approved by the National Organization for Public Health Nursing. The University offers a program in public health nursing leading to a Bachelor of Science degree in Education. Field experience is provided. Mrs. Bessie Swan is in charge of the curriculum in public health nursing. She will be assisted by Reba Edwards, formerly with the San Miguel County Health Department, Las Vegas, N. Mex., who will in the fall assume her duties as field supervisor.

- The Maternity Center Association in coöperation with the Department of Nursing Education of Teachers College, Columbia University, is offering a two months' course in advanced maternity nursing for a limited number of maternity supervisors in the field of public health nursing. Included in the course will be lectures on obstetrics, community maternity nursing, and other subjects affecting the care of maternity patients; supervised field observation; round table discussion of administrative and other problems; assigned reading; and study hours.

Registrants are requested to write directly to the Maternity Center Association, 654 Madison Avenue, New York, N. Y., giving name, address, and position held. Registration will be closed as soon as the quota of students register. Students taking the course for credit should make application for admission through the office of the Secretary, Teachers College, 525 West 120 Street,

New York, N. Y. The regular college tuition fees will be charged payable to Teachers College on the completion of registration. Students not taking this work for credit will be charged a flat registration fee of \$50. It is possible to keep living expenses within \$100 a month. Registrants will be sent a list of places where they may secure rooms.

- The American Red Cross has announced the appointment of Lucy E. Massey to the position of director of nursing of its Eastern Area on August 1. She received her Bachelor of Arts degree from Randolph Macon College and has had postgraduate work in sociology and public health at Teachers College, Columbia University, and at Western Reserve University. During this time she completed her work for her Master's degree. Her first position was with the Henry Street Visiting Nurse Service in New York City where she had four months' public health nursing with emphasis on maternity nursing. After this she held a county nurse's position in North Carolina and since that time she has been constantly in the public health nursing field both as a practicing public health nurse and as a teacher of public health nurses. Her great interest has always been in the rural community and much of her experience has been in the rural field, first as county nurse and later as supervisor of nurses. She comes to the American Red Cross from the School of Applied Social Science at Western Reserve University where she was associate professor of public health nursing and director of the course in public health nursing.